

| | | | | | | | |
|---|--|--------------------------------|--|---|--|---|--|
| AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT | | | | 1. CONTRACT ID CODE | | PAGE 1 OF 3 PAGES | |
| 2. AMENDMENT/MODIFICATION NO. 0002 | | 3. EFFECTIVE DATE 22 JAN 98 | | 4. REQUISITION/PURCHASE REQ. NO. | | 5. PROJECT NO. (If applicable) | |
| 6. ISSUED BY Department of the Army Corps of Engineers Fort Worth District | | CODE | | 7. ADMINISTERED BY (If other than Item 6) | | CODE | |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) | | | | (✓) | | 9A. AMENDMENT OF SOLICITATION NO. DACA63-98-R-0004 | |
| | | | | × | | 9B. DATED (SEE ITEM 11) 22 DECEMBER 1997 | |
| | | | | | | 10A. MODIFICATION OF CONTRACTS/ORDER NO. | |
| | | | | | | 10B. DATED (SEE ITEM 13) | |
| CODE | | | | FACILITY CODE | | | |

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

| | |
|-----|---|
| (✓) | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A. |
| | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
| | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: |
| | D. OTHER (Specify type of modification and authority) |

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
 The Price Proposal Schedule, Instructions, Conditions, and Notices to Bidders, Pre-Proposal Conference/Site Visitation, Proposal Submission Requirements, Representations and Certifications, Contract Clauses, Wage Rates, Special Contract Clauses, Technical Design and Construction Criteria, Attachments, and Drawings for REQUEST FOR PROPOSALS FOR DESIGN/BUILD ADDITION/ALTERATION YAD/ TEXTILE LABORATORY, BROOKS AIR FORCE BASE, SAN ANTONIO, TEXAS,are amended as follows:

See Continuation Sheet.

NOTE: Receipt of Proposal date is 13 February 1998, 4 p.m., CST, as previously announced.

| | | | |
|---|--|--|--|
| 15A. NAME AND TITLE OF SIGNER (Type or print) | | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) | |
| 15B. CONTRACTOR/OFFEROR | | 16B. UNITED STATES OF AMERICA | |
| _____ (Signature of person authorized to sign) | | BY _____ (Signature of Contracting Officer) | |
| 15C. DATE SIGNED | | 16C. DATE SIGNED | |

Item 14. Continued.

a. Price Proposal Schedule.

The Price Proposal Schedule shall be voided and the accompanying new Price Proposal Schedule, bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-R-0004", shall be substituted therefor.

b. Instructions, Conditions, and Notices to Bidders, Pre-Proposal Conference/Site Visitation, Proposal Submission Requirements, Representations and Certifications, Contract Clauses, Wage Rates and Special Contract Clauses.

The following listed sections shall be voided and the accompanying new sections of the same title and number, each bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-R-0004" shall be substituted therefor:

| <u>Section No.</u> | <u>Title</u> |
|--------------------|--|
| 00100 | INSTRUCTIONS, CONDITIONS, AND NOTICES TO BIDDERS |
| 00102 | PRE-PROPOSAL CONFERENCE/SITE VISITATION |
| 00120 | PROPOSAL SUBMISSION REQUIREMENTS |
| 00600 | REPRESENTATIONS & CERTIFICATIONS |
| 00700 | CONTRACT CLAUSES |
| 00710 | WAGE RATES |
| 00800 | SPECIAL CONTRACT REQUIREMENTS |

c. Division 1 - General Requirements.

The following listed sections shall be voided and the accompanying new sections of the same title and number, each bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-R-0004" shall be substituted therefor:

| <u>Section No.</u> | <u>Title</u> |
|--------------------|-----------------------|
| 01200 | PROJECT MEETINGS |
| 01300 | SUBMITTALS FOR DESIGN |

d. Division 2 - Technical Design and Construction Criteria.

The following listed sections shall be voided and the accompanying new sections of the same title and number, each bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-R-0004" shall be substituted therefor:

| <u>Section No.</u> | <u>Title</u> |
|--------------------|-----------------------------------|
| 02300 | ARCHITECTURAL DESIGN REQUIREMENTS |
| 02800 | ELECTRICAL DESIGN REQUIREMENTS |

e. Division 3 - Attachments.

(1) Attachment 3, Mandatory Specifications.- The following listed sections shall be voided and the accompanying new sections of the same title and number, each bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-R-0004" shall be substituted therefor:

| <u>Section No.</u> | <u>Title</u> |
|--------------------|--|
| 02080 | ASBESTOS ABATEMENT |
| 02091 | LEAD-CONTAINING PAINT (LCP) WORKER PROTECTION PLAN |

(2) Attachment 4, List of Mandatory CEGS and FW Guide Specifications.- The following listed accompanying new section, bearing the notation "ACCOMPANYING AMENDMENT NO. 0002 TO SOLICITATION NO. DACA63-98-R-0004" shall be added to attachment 4, and add to the Table of Contents:

| <u>Section No.</u> | <u>Title</u> |
|--------------------|-----------------------|
| 12640 | PREWIRED WORKSTATIONS |

f. Drawings.

The drawings listed below shall be voided and the attached new drawings of the same number, each bearing the notation "AM #0002", shall be substituted therefor:

| <u>Sequence No.</u> | <u>Sheet No.</u> | <u>Title</u> |
|---------------------|------------------|------------------------|
| 2 | C2 | SITE PLAN |
| 4 | A1 | DEMOLITION PLAN |
| 5 | A2 | BUILDING LOCATION PLAN |

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RFP, Design/Build ADAL YAD/Textile Lab (Title)
Brooks Air Force Base, San Antonio, Texas (Location)

Solicitation No. DACA63-98-R-0004

PRICE PROPOSAL SCHEDULE
 (To be attached to SF 1442)

| Item No. | Description | Estimated Quantity | Unit | Unit Price | Estimated Amount |
|----------|---------------|---|------|------------|------------------|
| Am#2 | 0001 | Design of <u>Bldg 578 Rehab</u> <u>and the Laboratory Facility,</u> complete, and the construction of the Laboratory Building, <u>including the Rehab of</u> <u>Bldg 578, the demolition</u> <u>of the Annex to Bldg</u> <u>578 and</u> including all utilities to the 1500 mm building line, exclusive of all work listed separately | Job | Sum | *** \$_____ |
| | 0002 | Construction of Site work and supporting utilities, complete, including all utilities outside the building's 1500 mm line, and all other work not separately listed. | Job | Sum | *** \$_____ |
| | 0003 | Hazardous Material Abatement of existing Building 578 | *** | *** | ***** ***** |
| Am#2 | <u>0003AA</u> | <u>Remove Vinyl Asbestos</u> <u>Tile and Mastic</u> | 1156 | M2 | \$_____ \$_____ |
| Am#2 | <u>0003AB</u> | <u>Remove Asbestos</u> <u>Containing Louver</u> <u>Caulking Material</u> | 1475 | M2 | \$_____ \$_____ |
| Am#2 | <u>0003AC</u> | <u>Remove Fluorescent</u> <u>Light Tubes</u> | 470 | M2 | \$_____ \$_____ |
| Am#2 | <u>0003AD</u> | <u>Remove Fluorescent</u> <u>Light Ballasts,</u> <u>TCB/DEPH</u> | 366 | M2 | \$_____ \$_____ |

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| | | | | | | |
|------|---------------|-------------------------------|---|----|---------|---------|
| Am#2 | <u>0003AE</u> | <u>Remove Fluorescent</u> | | | | |
| | | <u>Light Ballasts, PCB</u> | 2 | M2 | \$_____ | \$_____ |
| Am#2 | <u>0003AF</u> | <u>Emergency Lights, Lead</u> | 6 | M2 | \$_____ | \$_____ |
| Am#2 | <u>0003AG</u> | <u>Halon Cylinder-</u> | | | | |
| | | <u>150 Lbs, ODC</u> | 6 | M2 | \$_____ | \$_____ |
| Am#2 | <u>0003AH</u> | <u>Halon Cylinder-</u> | | | | |
| | | <u>190 Lbs, ODC</u> | 1 | M2 | \$_____ | \$_____ |
| Am#2 | <u>0003AJ</u> | <u>Halon Cylinder-</u> | | | | |
| | | <u>225 Lbs, ODC</u> | 2 | M2 | \$_____ | \$_____ |
| Am#2 | <u>0003AK</u> | <u>Halon Cylinder-</u> | | | | |
| | | <u>250 Lbs, ODC</u> | 1 | M2 | \$_____ | \$_____ |
| Am#2 | <u>0003AL</u> | <u>Thermostats, Mercury</u> | 3 | M2 | \$_____ | \$_____ |
| Am#2 | <u>0003AM</u> | <u>Drinking Water</u> | | | | |
| | | <u>Fountain, ODC</u> | 1 | M2 | \$_____ | \$_____ |

TOTAL BASE BID \$_____

| | | | | | | |
|------|-------------|--------------------------|----|-------|---------|---------|
| Am#2 | <u>0004</u> | <u>Option No. 1</u> | | | | |
| | | <u>Systems Furniture</u> | 80 | Units | \$_____ | \$_____ |

TOTAL BASE BID PLUS OPTION NO. 1 \$_____

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Solicitation No. DACA63-98-R-0004

PRICE PROPOSAL SCHEDULE (cont)

NOTES:

1. ARITHMETIC DISCREPANCIES (EFARS 14.406-2)

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:

- (1) Obviously misplaced decimal points will be corrected;
- (2) In case of discrepancy between unit price and extended price, the unit price will govern;
- (3) Apparent errors in extension of unit prices will be corrected; and
- (4) Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purposes of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, extensions, and totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

2. If a modification to a bid based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the bid schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

3. Bidders must bid on all items. For Bid Item 0003, Drilled Piers, fill in the estimated quantities, unit prices, and cost for those pier sizes required by the bidder's design. Line-through or asterisk out the Amount column blank for those drilled pier sizes not used.

4. Costs attributable to Division 01 - General Requirements are assumed to be prorated among bid items listed.

5. Responders are advised that this requirement may be delayed, cancelled or revised at any time during the solicitation, selection, evaluation, negotiation and/or final award process based on decisions related to DOD changes in force structure and disposition of the Armed Forces.

6. For the purpose of this solicitation, the word "item" shall be considered to mean "schedule" as used in Provision 52.215-16 III, CONTRACT

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AWARD, in Section 00100 INSTRUCTIONS, CONDITIONS, AND NOTICES TO BIDDER, excluding additives, deductives, or optional items.

7. The Army will procure this laboratory through a design and cost competition in accordance with the provisions set forth in this Request for Proposals (RFP). When a contract is awarded, it will be a "Firm Fixed Price Contract."

8. The Congress, in authorizing and funding this contract, has established certain cost limitations for the project. The current authorization for the complete design and construction of this project is \$3,900,000. Proposals that exceed this funding limit after exercising any options may be rejected. Submission of desirable alternative features exceeding minimum requirements may be considered as long as award can be made within the established funds.

9. Any proposal which is materially unbalanced as to prices for the Base Schedule may be rejected. An unbalanced proposal is one which is based on prices significantly less than the cost for some work and prices which are significantly overstated for other work and can also exist where only overpricing or underpricing exists.

10. ABBREVIATIONS

| | |
|----|---------------|
| EA | Each |
| LM | Linear Meter |
| M2 | Square Meters |

11. EVALUATION OF OPTIONS (JUL 1990) (FAR 52.217-5)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

12. OPTION FOR INCREASED QUANTITY - SEPARATELY PRICED LINE ITEM (MAR 1989) (FAR 52.217-7)

The Government may require the completion of the numbered line item, identified in the Bidding Schedule as an option item, in the quantity and at the price stated in the Bidding Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within the period specified in the Bidding Schedule. Completion of added items shall continue at the same schedule as the Base Bid unless otherwise noted in the SPECIAL CONTRACT REQUIREMENTS, paragraph 1 entitled COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK.

13. The Government reserves the right to exercise the option(s) either singularly or in any combination for up to **250** calendar days after award of the Base Bid without an increase in the Offeror's Bid Price.

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SECTION 00100

INSTRUCTIONS, CONDITIONS, AND NOTICES TO BIDDERS

1 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (JUN 1988)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

(End of provision)

2 52.215-1 I INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION (OCT 1997)--ALTERNATE I
(OCT 1997)

(a) Definitions. As used in this provision--

"Discussions" are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer's discretion, result in the offeror being allowed to revise its proposal.

"In writing" or "written" means any worded or numbered expression which can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

"Proposal modification" is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

"Proposal revision" is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

"Time," if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

(b) Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

(c) Submission, modification, revision, and withdrawal of proposals.

(1) Unless other methods (e.g., electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

(2) The first page of the proposal must show--

(i) The solicitation number;

(ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);

(iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item;

(iv) Names, titles, and telephone and facsimile numbers (and electronic addresses if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

(v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(3) Late proposals and revisions.

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(i) Any proposal received at the office designated in the solicitation after the exact time specified for receipt of offers will not be considered unless it is received before award is made and--

(A) It was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);

(B) It was sent by mail (or telegram or facsimile, if authorized) or hand-carried (including delivery by a commercial carrier) if it is determined by the Government that the late receipt was due primarily to Government mishandling after receipt at the Government installation;

(C) It was sent by U.S. Postal Service Express Mail Next Day Service-Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of proposals. The term "working days" excludes weekends and U.S. Federal holidays;

(D) It was transmitted through an electronic commerce method authorized by the solicitation and was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(E) There is acceptable evidence to establish that it was received at the activity designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers, and the Contracting Officer determines that accepting the late offer would not unduly delay the procurement; or

(F) It is the only proposal received.

(ii) Any modification or revision of a proposal or response to request for information, including any final proposal revision, is subject to the same conditions as in subparagraphs (c)(3)(i)(A) through (c)(3)(i)(E) of this provision.

(iii) The only acceptable evidence to establish the date of mailing of a late proposal or modification or revision sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the proposal, response to a request for information, or modification or revision shall be processed as if mailed late.

"Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, offerors or respondents should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and the envelope or wrapper.

(iv) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(v) The only acceptable evidence to establish the date of mailing of a late offer, modification or revision, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph (c)(3)(iii) of this provision, excluding postmarks of the Canadian Postal Service. Therefore, offerors or respondents should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and the envelope or wrapper.

(vi) Notwithstanding paragraph (c)(3)(i) of this provision, a late modification or revision of an otherwise successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

(vii) Proposals may be withdrawn by written notice or telegram (including mailgram) received at any time before award. If the

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solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision entitled "Facsimile Proposals." Proposals may be withdrawn in person by an offeror or an authorized representative, if the representative's identity is made known and the representative signs a receipt for the proposal before award.

(viii) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation or other notice of an extension of the closing date, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office.

(4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.

(5) Proposals submitted in response to this solicitation shall be in English and in U.S. dollars, unless otherwise permitted by the solicitation.

(6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.

(7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.

(8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

(d) Offer expiration date. Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).

(e) Restriction on disclosure and use of data. Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall--

(1) Mark the title page with the following legend: This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with--the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets (insert numbers or other identification of sheets); and

(2) Mark each sheet of data it wishes to restrict with the following legend: Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(f) Contract award.

(1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.

(2) The Government may reject any or all proposals if such action is in the Government's interest.

(3) The Government may waive informalities and minor irregularities in proposals received.

(4) The Government intends to evaluate proposals and award a contract after conducting discussions with offerors whose proposals have been determined to be within the competitive range. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals. Therefore, the offeror's initial proposal should contain the offeror's best terms from a price and technical standpoint.

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(5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the proposal.

(6) The Government reserves the right to make multiple awards if, after considering the additional administrative costs, it is in the Government's best interest to do so.

(7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.

(8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.

(10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.

(11) The Government may disclose the following information in postaward debriefings to other offerors:

(i) The overall evaluated cost or price and technical rating of the successful offeror;

(ii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection;

(iii) A summary of the rationale for award; and

(iv) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(End of provision)

3 52.203-1 Reserved
(Reference)

4 52.236-28 PREPARATION OF PROPOSALS--CONSTRUCTION (OCT 1997)

(a) Proposals must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a proposal must initial each erasure or change appearing on any proposal form.

(b) The proposal form may require offerors to submit proposed prices for one or more items on various bases, including--

(1) Lump sum price;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of paragraphs (b)(1) through (b)(3) of this provision.

(c) If the solicitation requires submission of a proposal on all items, failure to do so may result in the proposal being rejected without further consideration. If a proposal on all items is not required, offerors should insert the words "no proposal" in the space provided for any item on which no price is submitted.

(d) Alternate proposals will not be considered unless this solicitation authorizes their submission.

(End of provision)

5 52.0-4071 SUBMISSION OF BIDS VIA EXPRESS MAIL (52.0000-4071)

a. Your attention is directed to Federal Acquisition Regulation (FAR) 52.214-5 SUBMISSION OF BIDS, which requires that bids be addressed to the office specified in the solicitation, and show the time specified for receipt, the solicitation number, and the name and address of the bidder.

b. When using express mail services (i.e. Federal Express, Air Borne, Emery, etc.) other than the United States Postal Services Overnight Express, you must include the room number in the address, which requires

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delivery directly to a specific room. Failure to include the room number can cause delays, and could result in your bid being rejected as late.

6 52.0-4072 BIDDER'S QUALIFICATIONS (52.0000-4072)

Pursuant to FAR 9.1, before a bid is considered for award, the bidder may be requested by the Government to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

7 52.0-4073 INFO ON EXECUTION OF COMPETITIVE INFORMATION CERTIFICATION (52.0000-4073)

(AUG 89) (AL 89-21)

Prospective Bidders/Offeror are hereby notified that, prior to award, the apparent low bidder or apparently successful offeror will be required to execute a "Competitive Information Certificate" if such prospective awardee is listed as a contractor from whom a "Competitive Information Certificate" is required. This certification is required for all competitive procurements which exceed \$100,000 and is in addition to the contractor certification requirements set forth in FAR 3.104-9.

8 52.0-4074 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (52.0000-4074)

Whenever a contract or modification of contract price is negotiated, the Contractor's cost proposals for equipment ownership and operating expenses shall be determined in accordance with the requirements of the Section 00800, EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE. A copy of EP 1110-1-8 "Construction Equipment Ownership and Operating Expense Schedule" is available for review at the Area/Resident Office hereinbefore listed. Bidders/Contractors may purchase copies of EP 1110-1-8 (Volumes 1 through 12) by phoning (202) 783-3238, or by writing "Superintendent of Documents U.S. Government Printing Office, Washington, D.C. 20402." Major credit cards are accepted.

9 52.0-4075 NOTICE ON POTENTIAL EMPLOYMENT ON MILITARY INSTALLATION (52.0000-4075)

If the work called for by this request for proposal is located on a military installation, offerors should check with post/base security to determine if potential employees will be allowed on the base/post to seek employment.

10 52.0-4076 PARTNERING (52.0000-4076)

In order to most effectively accomplish this contract, the government is encouraging the formation of a cohesive partnership with the contractor and its subcontractors. This partnership would strive to draw on the strengths of each organization in an effort to achieve a quality project done right the first time, within budget, and on schedule. This partnership would be bilateral in make-up and participation would be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by both parties and will be shared equally with no change in contract price.

11 52.0-4077 SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS SUBCONTRACTING PLAN (52.0000-4077)

Reference FAR 52.219-0009. The bidder/offeror shall take into consideration only those subcontracts which he/she will award when preparing the subcontracting plan required by the FAR.

12 52.36-4000 ESTIMATED CONSTRUCTION COST (52.0036-4000)

The estimated cost of the proposed construction is between \$1,000,000.00

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and \$5,000,000.00.

13 52.36-4001 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (52.0036-4001)

a. Site Visit (FAR 36.303(c)(5))

Offeror's attention is directed to the contract clause SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK. Information relative to site visit/site inspection prior to offering may be obtained from:

See Section 00102 for dates of Site Visits and Presolicitation Conference.

b. Inspection Arrangements

Prior to inspection of the premises, offerors shall make arrangements with the project office listed above. After arrangements have been made, offerors are invited to inspect the premises between 9 a.m. and 4 p.m. on Tuesdays and Thursdays, at which time a representative of the Government will be available for assistance.

14 52.36-4002 AVAILABILITY OF UTILITY SERVICES (52.0036-4002)

Water, gas, and electricity are available from Government-owned and operated systems. See Section 00800 SPECIAL CLAUSES for details.

15 52.36-4501 PERFORMANCE OF WORK BY CONTRACTOR (52.0036-4501)

Unless he has submitted such description with his bid, the successful bidder must furnish the Contracting Officer within 20 days after award, a description of the work which he intends to perform with his own organization (e.g., earthwork, paving, brickwork, or roofing), the percentage of the total work this represents, and the estimated cost thereof.

16 52.204-6 CONTRACTOR IDENTIFICATION NUMBER--DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (DEC 1996)

(a) Contractor Identification Number, as used in this provision, means "Data Universal Numbering System (DUNS) number," which is a nine-digit number assigned by Dun and Bradstreet Information Services.

(b) Contractor identification is essential for complying with statutory contract reporting requirements. Therefore, the offeror is requested to enter, in the block with its name and address on the Standard Form 33 or similar document, the annotation "DUNS" followed by the DUNS number which identifies the offeror's name and address exactly as stated in the offer.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. A DUNS number will be provided immediately by telephone at no charge to the offeror. For information on obtaining a DUNS number, the offeror should call Dun and Bradstreet at 1-800-333-0505. The offeror should be prepared to provide the following information:

- (1) Company name.
- (2) Company address.
- (3) Company telephone number.
- (4) Line of business.
- (5) Chief executive officer/key manager.
- (6) Date the company was started.
- (7) Number of people employed by the company.
- (8) Company affiliation.

(d) Offerors located outside the United States may obtain the location and phone number of the local Dun and Bradstreet Information Services office from the Internet Home Page at <http://www.dbisna.com/dbis/customer/custlist.htm>. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@dbisma.com.

(End of provision)

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17 52.204-7001 COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE REPORTING (DEC 1991)

(a) The Offeror is requested to enter its CAGE code on its offer in the block with its name and address. The CAGE code entered must be for that name and address. Enter CAGE before the number.

(b) If the Offeror does not have a CAGE code, it may ask the Contracting Officer to request one from the Defense Logistics Services Center (DLSC). The Contracting Officer will--

(1) Ask the Contractor to complete section B of a DD Form 2051, Request for Assignment of a Commercial and Government Entity (CAGE) Code;

(2) Complete section A and forward the form to DLSC; and

(3) Notify the Contractor of its assigned CAGE code.

(c) Do not delay submission of the offer pending receipt of a CAGE code.
(End of provision)

18 52.210-4001 EBSAVAILABILITY OF SPECIFICATIONS AND STANDARDS NOT LISTED IN DODISS, DATA
ITEM DESCRIPTIONS NOT LISTED IN DOD 5010.12-L, AND PLANS, DRAWINGS, AND
OTHER PERTINENT DOCUMENTS (DEC 1991)(52.0210-4001 EBS)

Offerors may obtain the specifications, standards, plans, drawings, data item descriptions, and other pertinent documents cited in this solicitation by submitting a request to:

U.S. Army Corps of Engineers, Fort Worth

ATTN: CESWF-CT

819 Taylor, Room 2A19

Post Office Box 17300

Fort Worth, Texas 76102-0300

Include the number of the solicitation and the title and number of the specification, standard, plan, drawing, or other pertinent document.

One electronic copy of the specifications, which include drawings, will be furnished on a compact disk free of charge to all those who submit the above information.

NOTE: Paper plans and specifications will not be issued on this solicitation.

(End of provision)

19 52.211-2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE DOD INDEX OF SPECIFICATIONS
AND STANDARDS (DODISS) (JUN 1997)

Single copies of specifications cited in this solicitation may be obtained by submitting a written request to the supply point listed below.

The request must contain the title of the specification, its number, date, applicable amendment(s), and the solicitation or contract number. A

telephone order entry system is available with the use of a touch tone telephone. A Customer Number is required to use this system and may be

obtained by written request to the address listed below or by telephone (215-697-2179). In case of urgency, telegraphic requests are acceptable.

Voluntary standards, which are not available to Offerors and Contractors from Government sources, may be obtained from the organization responsible for their preparation, maintenance, or publication.

Standardization Document

Order Desk, Building 4, Section D

700 Robbins Avenue

Philadelphia, PA 19111-5094

Facsimile No.....215-697-2978

(End of provision)

20 52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

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(End of provision)

21 52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY (APR 1991)

Offers submitted in response to this solicitation shall be in terms of U.S. dollars. Offers received in other than U.S. dollars shall be rejected.

(End of provision)

22 52.215-5 FACSIMILE PROPOSALS (OCT 1997)

(a) Definition. "Facsimile proposal," as used in this provision, means a proposal, revision or modification of a proposal, or withdrawal of a proposal that is transmitted to and received by the Government via facsimile machine.

(b) Offerors may submit facsimile proposals as responses to this solicitation. Facsimile proposals are subject to the same rules as paper proposals.

(c) The telephone number of receiving facsimile equipment is: (817) 978-3166

(d) If any portion of a facsimile proposal received by the Contracting Officer is unreadable to the degree that conformance to the essential requirements of the solicitation cannot be ascertained from the document--

(1) The Contracting Officer immediately shall notify the offeror and permit the offeror to resubmit the proposal;

(2) The method and time for resubmission shall be prescribed by the Contracting Officer after consultation with the offeror; and

(3) The resubmission shall be considered as if it were received at the date and time of the original unreadable submission for the purpose of determining timeliness, provided the offeror complies with the time and format requirements for resubmission prescribed by the Contracting Officer.

(e) The Government reserves the right to make award solely on the facsimile proposal. However, if requested to do so by the Contracting Officer, the apparently successful offeror promptly shall submit the complete original signed proposal.

(End of provision)

#2 23 **Moved to Section 00600**

24 52.215-10 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA (OCT 1997)

(a) If any price, including profit or fee, negotiated in connection with this contract, or any cost reimbursable under this contract, was increased by any significant amount because--

(1) The Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data;

(2) A subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data; or

(3) Any of these parties furnished data of any description that were not accurate, the price or cost shall be reduced accordingly and the contract shall be modified to reflect the reduction.

(b) Any reduction in the contract price under paragraph (a) of this clause due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which--

(1) The actual subcontract; or

(2) The actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(c)(1) If the Contracting Officer determines under paragraph (a) of this

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clause that a price or cost reduction should be made, the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted.

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer.

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract.

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2)(i) Except as prohibited by subdivision (c)(2)(ii) of this clause, an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if--

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the "as of" date specified on its Certificate of Current Cost or Pricing Data, and that the data were not submitted before such date.

(ii) An offset shall not be allowed if--

(A) The understated data were known by the Contractor to be understated before the "as of" date specified on its Certificate of Current Cost or Pricing Data; or

(B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the "as of" date specified on its Certificate of Current Cost or Pricing Data.

(d) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid--

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

(2) A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data that were incomplete, inaccurate, or noncurrent.

(End of clause)

25 52.215-12 SUBCONTRACTOR COST OR PRICING DATA (OCT 1997)

(a) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modification involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1 applies.

(b) The Contractor shall require the subcontractor to certify in substantially the form prescribed in FAR 15.406-2 that, to the best of its knowledge and belief, the data submitted under paragraph (a) of this clause were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(c) In each subcontract that exceeds the threshold for submission of cost or pricing data at FAR 15.403-4, when entered into, the Contractor shall insert either--

(1) The substance of this clause, including this paragraph (c), if paragraph (a) of this clause requires submission of cost or pricing data

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for the subcontract; or

(2) The substance of the clause at FAR 52.215-13, Subcontractor Cost or Pricing Data--Modifications.

(End of clause)

26 52.215-14 INTEGRITY OF UNIT PRICES (OCT 1997)

(a) Any proposal submitted for the negotiation of prices for items of supplies shall distribute costs within contracts on a basis that ensures that unit prices are in proportion to the items' base cost (e.g., manufacturing or acquisition costs). Any method of distributing costs to line items that distorts unit prices shall not be used. For example, distributing costs equally among line items is not acceptable except when there is little or no variation in base cost. Nothing in this paragraph requires submission of cost or pricing data not otherwise required by law or regulation.

(b) When requested by the Contracting Officer, the Offeror/Contractor shall also identify those supplies that it will not manufacture or to which it will not contribute significant value.

(c) The Contractor shall insert the substance of this clause, less paragraph (b), in all subcontracts for other than: acquisitions at or below the simplified acquisition threshold in FAR Part 2; construction or architect-engineer services under FAR Part 36; utility services under FAR Part 41; services where supplies are not required; commercial items; and petroleum products.

(End of clause)

27 52.215-15 TERMINATION OF DEFINED BENEFIT PENSION PLANS (OCT 1997)

The Contractor shall promptly notify the Contracting Officer in writing when it determines that it will terminate a defined benefit pension plan or otherwise recapture such pension fund assets. If pension fund assets revert to the Contractor or are constructively received by it under a termination or otherwise, the Contractor shall make a refund or give a credit to the Government for its equitable share as required by FAR 31.205-6(j)(4). The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(g).

(End of clause)

28 52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a firm fixed price contract resulting from this solicitation.

(End of provision)

29 52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

US Army Corps of Engineers, Fort Worth District

ATTN: Contracting Officer/CESWF-CT

819 Taylor St. Fort Worth, Tx 76102-0300

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

30 52.236-7008 CONTRACT PRICES--BIDDING SCHEDULES (DEC 1991)

(a) The Government's payment for the items listed in the Bidding Schedule shall constitute full compensation to the Contractor for--

(1) Furnishing all plant, labor, equipment, appliances, and materials;

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and

(2) Performing all operations required to complete the work in conformity with the drawings and specifications.

(b) The Contractor shall include in the prices for the items listed in the Bidding Schedule all costs for work in the specifications, whether or not specifically listed in the Bidding Schedule.

(End of provision)

31 52.215-4016 TM CONTRACT AWARD (JUN 1996) (DEVIATION) (52.0215-4016 TM)

(a) The Government will award a contract resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the Government, cost or price and other factors, specified elsewhere in this solicitation, considered.

(b) The Government may (1) reject any or all offers if such action is in the public interest, (2) accept other than the lowest offer, and (3) waive informalities and minor irregularities in offers received.

(c) The Government intends to evaluate proposals and award a contract without discussions with offerors (except communications conducted for the purpose of minor clarification). Therefore, each initial offer should contain the offeror's best terms from a cost or price and technical standpoint. However, the Government reserves the right to conduct discussions if later determined by the Contracting Officer to be necessary.

(d) The Government may accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or offer.

(e) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer shall result in a binding contract without further action by either party. Before the offer's specified expiration time, the Government may accept an offer (or part of an offer, as provided in paragraph (d) above), whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award. Negotiations conducted after receipt of an offer do not constitute a rejection or counteroffer by the Government.

(f) Neither financial data submitted with an offer, nor representations concerning facilities or financing, will form a part of the resulting contract. However, if the resulting contract contains a clause providing for price reduction for defective cost or pricing data, the contract price will be subject to reduction if cost or pricing data furnished is incomplete, inaccurate, or not current.

(g) The Government may determine that an offer is unacceptable if the prices proposed are materially unbalanced between line items or subline items. An offer is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the offer will result in the lowest overall cost to the Government, even though it may be the low evaluated offer, or it is so unbalanced as to be tantamount to allowing an advance payment.

(h) The Government may disclose the following information in post-award debriefings to other offerors: (1) the overall evaluated cost or price and technical rating of the successful offeror; (2) the overall ranking of all offerors, when any ranking was developed by the agency during source selection; a summary of the rationale for award; and (4) for acquisitions of commercial end items, the make and model of the item to be delivered by the successful offeror.

(End of provision)

32 52.0-4001 ITB CENTRAL CONTRACTOR REGISTRATION (52.0000-4001 ITB)

Central Contractor Registration (CCR) allows Federal Government contractors to provide basic business information, capabilities, and financial information one time to the government. To make registration easier, on October 1, 1996, the Department of Defense (DoD) implemented the capability for contractors to register in the CCR through the World Wide Web. The CCR Web site may be accessed at <http://www.acq.osd.mil/ec>. Registration can also be accomplished via dial up modem at 614-692-6788 (User ID: ccrpub; Password: pub2ccri), or through any DoD Certified Value

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Added Network. Additionally, a paper form for registration may be obtained from the DoD Electronic Commerce Information Center at 1-800-334-3414. (Note: Companies that do not wish to conduct electronic commerce with the Federal Government at this time can reduce the amount of information they must provide by answering "no" to the question "Are you Electronic Data Interchange capable?")

DoD would now like to use the CCR to comply with the recently enacted Debt Collection Improvement Act of 1996, which requires Federal agencies to have the Taxpayer Identification Number (TIN) of every contractor and to pay every contractor through electronic funds transfer. Having the necessary contractor information centrally available through the CCR where it can be accessed by both contracting and payment offices will greatly enhance DoD's ability to comply with the law. Additionally, contractors will have to provide this information only once and update it annually and as key company information changes, rather than providing it in response to every solicitation.

Changes to the DoD Federal Acquisition Regulation Supplement are in process to implement the requirement that, for awards resulting from solicitations issued after March 31, 1998, the contractor must be registered in the CCR or the contract cannot be awarded. This requirement will apply to all solicitations and awards, regardless of the media used: paper, oral, fax, electronic, etc. The only exceptions will be for purchases made with the Governmentwide commercial purchase card, contracting officers located outside the U.S., classified contracts, and contracts executed to support contingency or emergency operations.

(End of Provision)

33 52.215-16 FACILITIES CAPITAL COST OF MONEY (OCT 1997)

(a) Facilities capital cost of money will be an allowable cost under the contemplated contract, if the criteria for allowability in subparagraph 31.205-10(a)(2) of the Federal Acquisition Regulation are met. One of the allowability criteria requires the prospective contractor to propose facilities capital cost of money in its offer.

(b) If the prospective Contractor does not propose this cost, the resulting contract will include the clause Waiver of Facilities Capital Cost of Money.

(End of provision)

34 52.0-4010 GENERAL NOTICES (52.0000-4010)

a. In the technical specifications wherever the term "stabilized aggregate base course" is used, or wherever a reference is made to a section entitled "Stabilized Aggregate Base Course," it shall be deemed to mean "Aggregate Base Course."

b. Bidders must provide full, accurate, and complete information as required by this solicitation and its attachments. The penalty for making false statements in bids is prescribed in 18 USC 1001. (FAR 52.214-4)

c. The Affirmative Action Requirement of the Equal Opportunity Clause may apply to any contract resulting from this RFP.

d. Failure of a bidder or offeror to agree to the certification required by the Certification of Nonsegregated Facilities clause will render his bid or offer nonresponsive to the terms of solicitations involving awards of contracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause. (FAR 52.222-26)

e. Statements in technical section submittal paragraphs that "Submittals shall be submitted in accordance with the Section 01300: Submittals" shall be deemed to mean "Submittals shall be submitted in accordance with Section 01300, SUBMITTAL PROCEDURES."

(End of Provision)

END OF SECTION 00100

SECTION 00102

PRE-PROPOSAL CONFERENCE/SITE VISITATION

PART 1 GENERAL

1.1 PRE-PROPOSAL CONFERENCE/SITE VISITATION

Invitation is extended to all prospective bidders to attend a pre-proposal conference and site visitation for the **RFP For Design/Build ADAL YAD/Textile Lab, Brooks Air Force Base, San Antonio, Texas**. The pre-proposal conference has been scheduled for 9 a.m. on 6 January 1998 at Brooks Resident Office, 2105 15th Street, Building 4195, Fort Sam Houston, Texas. A site visit is scheduled for 9 a.m. on 7 January 1998. An additional site visit is scheduled for 9 a.m. on 20 January 1998.

At the pre-proposal conference, Government representatives will highlight specific design/build contract requirements. The objective is to provide an information exchange between potential bidders and the Government to avoid the possibility of misinterpretation of the contract requirements. Accordingly, it is highly recommended that prospective bidders attend the pre-proposal conference and, in the interest of making the conference more meaningful, prospective bidders are urged to present any written questions concerning the project bid documents, bidding, design and construction requirements or other related matters prior to the conference to the address shown in Block 7 of Standard Form 1442 contained in Section 00010,

Am#2 "Solicitation, Offer, And Award (Standard Form 1442)," ATTN: Denver Heath, Contract Specialist, Fort Worth District, Tel: (817) 978-4418; Fax: (817) 978-4547. Submit all questions and inquiries to Mr. Heath. Written questions may be submitted at the beginning of the conference and oral questions may be submitted from the floor, but answers will be limited to the time available. Written queries need not be signed if anonymity is desired. Answers, interpretations and decisions made at the conference will not become official unless and until verified by an amendment to the contract issued prior to the receipt of bids.

Following the conference and pursuant to Contract Clause "FAR 52.236-3, Site Investigation and Conditions Affecting the Work," and the Site Visit Clause in Section 00100, "Instructions, Conditions, and Notices to Bidders," prospective bidders will be permitted to inspect the site where services are to be performed and to satisfy themselves as to all general and local conditions that may affect the cost of performance of the contract to the extent such information is reasonably obtainable. In no event will a failure to inspect the site constitute grounds for withdrawal of a bid after bid opening or for a claim after award of the contract.

Am#2 Potential bidders are requested to advise as to their intent to attend the pre-proposal conference and site visitation by facsimile transmission to Mr. Denver Heath at (817) 978-4547 at their earliest convenience.

Am#2 As-built drawings of Bldg 578 will be available for information purposes only; they are not part of the solicitation and there is no guarantee of their validity. For viewing information, contact Ms. Sandy Hamby at (210) 536-3602. Copies will not be furnished.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

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SECTION 00120

PROPOSAL SUBMISSION REQUIREMENTS

1. REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CORPS OF ENGINEERS, SOUTHWESTERN DIVISION (COE SWD)

\-COE SWD-AEIM-\ (1996) Southwestern Division Architectural and Engineering Instructions Manual

2. REQUIRED TECHNICAL DATA FOR PROPOSAL SUBMISSION

The data listed below shall be submitted as part of the formal proposal. Proposals shall include graphic description of the base proposal design clearly indicated as such. All alternate designs which may or may not be priced as additive or deductive items shall be graphically described on separate drawings from the base proposal design. Offerors are advised that the required data will be utilized for review and evaluation and used for determination of a "Quality Rating" by a Technical Evaluation Team and that all data submitted for consideration under this proposal will be reviewed only for the purposes required for evaluation and award. Materials indicated in the Request For Proposal (RFP) (design/construction) criteria but not indicated in the offeror's specifications will be assumed to be included and a part of the proposal.

2.1 Compliance Certification

Offerors shall certify that all items submitted in their proposals and final design documents (after contract award) comply with design requirements. The criteria specified in the Solicitation are binding contract criteria and in case of any conflict, after award, between the solicitation criteria and Contractor's submittals, the order of precedence listed in Section 01300, paragraph "Document Order of Precedence," will apply. This certification shall be included with each proposal.

2.2 Submission

Each proposal shall be prepared and submitted in the form specified below. Proposal documents shall be developed to a 10 percent design completion, sufficiently to indicate the architectural design, structural design, HVAC system, aesthetics, electrical system, site development and administration of the project so that a determination of technical adequacy and compliance with criteria can be made by the Fort Worth District, Corps of Engineers.

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2.2.1 Number of Copies

Submit the proposal, in three packages, in the number of copies indicated below:

Package 1 (Technical Proposal): (15 copies*), containing:
(**clearly marked as "Technical Proposal, RFP No. DACA63-98-R-0004"**)

- Design-Build Team's Qualifications and Past Performance Data
- Design Proposal
- Project Management Plan
- Compliance Certification

(*15 copies applies to all documents except color finish boards, of which 3 are required.)

Package 2 (Cost/Price Proposal): (2 copies plus original), containing:
(**clearly marked as "Cost/Price Proposal, RFP No. DACA63-98-R-0004"**)

- Completed Standard Form 1442, SOLICITATION, OFFEROR, AND AWARD
- Price Proposal Schedule, Section 00010
- Proposal (Bid) bonds
- Representations and Certifications, Section 00600

Package 3 (Subcontracting Plan): (original ONLY), containing:
(**clearly marked as "Subcontracting Plan, RFP No. DACA63-98-R-0004"**)

- Subcontracting Plan (large business ONLY)

2.2.2 Revisions

Proposal revisions shall be submitted as page replacements with revised text readily identifiable, e.g. bold face print or underlining. Revised pages shall be numbered, dated, submitted in appropriate number of copies, and a different color page than the original.

2.2.3 Drawings

Drawings shall be 610 mm by 914 mm (24 by 36 inches), sheet size with 13 mm borders, all four sides. Each drawing shall be identified with the appropriate Sequence and Sheet Numbers in the lower right hand corner.

2.2.4 Written Material

All written material, including catalog cuts, shall be submitted in standard three ring binders or shall be bound with a plastic binder similar to General Binding Corporation's "Cerlox," "Surelox" or "Ziplox" binder. Except for the specifications, catalog cuts, and drawings, the proposal shall be limited to 70 single-sided pages or 35 double-sided pages (not including the cover sheet or table of contents), and be tabbed and labeled in a manner to afford easy identification from a Table of Contents. Each page shall be identified with the appropriate page number centered at the bottom of the page. Sheet size of the proposal contents shall be 216 mm by 279 mm (8-1/2 by 11 inches). Legibility, clarity, coherence, and the contents are important. The offeror shall not submit verbatim sections or attachments of this solicitation as part of their proposal. Offers that do not meet these requirements may be subject to rejection.

2.2.5 Table of Contents

The proposal shall contain a detailed table of contents. The complete table of contents shall be included in each binder used. Materials submitted but not required by this solicitation, (such as company brochures and equipment lists), shall be relegated to appendices.

2.3 Referenced Publications

Corps of Engineers' (COE) design criteria and manuals that are referenced in this RFP, such as the COE SWD Engineering Instruction Manual (COE SWD-AEIM), Technical Manuals (TM), Military Handbooks, Engineering Regulations (ER), and Engineering Manuals (EM), will be made available to the successful offeror after award of the contract, free of charge. These publications will be available to prospective offerors upon request and at the cost of reproduction. Obtaining other referenced publications such as Federal and Military Specifications, Military Standards, and industry standards (i.e., ASTM, ANSI, ACI, NFPA, Uniform Building Code) will be the responsibility of each offeror. See Section 00100, paragraph "AVAILABILITY OF SPECIFICATIONS LISTED IN THE DOD INDEX OF SPECIFICATIONS AND STANDARDS," for information on obtaining these publications. Offerors are warned that due to the limited time for proposal preparation and submittal, there may not be enough time for ordering and receiving any of the above references. Failure to receive requested references will not be sufficient reason for extension of the proposal submission date.

2.4 Proposal Composition

Offeror is responsible for including sufficient details to permit a complete and accurate evaluation of the proposal from both a management and technical standpoint. Offeror shall identify technical uncertainties and assumptions within the requirement set forth in the RFP and provide specific proposals for their resolution. The Government will not make assumptions concerning the offeror's intent, capabilities, facilities, and experiences. Clear identification is the sole responsibility of the offeror.

2.4.1 Design Proposal

The Design Proposal shall include, as a minimum, the following descriptive concept drawings, specifications, and data.

2.4.1.1 General Description

General description of the building addressing the overall design, materials, components, and engineering with emphasis on the floor plan. It shall describe the proposed exterior and interior building materials, floors, ceilings, walls, structural systems, air conditioning/heating systems, plumbing system, lighting system, power distribution system and fire protection system.

2.4.1.2 Outline Specifications

Outline specifications shall conform to the Construction Specifications Institute's (C.S.I.) 16-Division, 3 Part format. The specifications shall reference all Federal, State, and local building codes, fire codes, and

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life safety codes to be employed in the final design, shall list the guide specifications by guide specification system, number, and title that are proposed for the project, and shall indicate the quality of materials, construction, finishes, fixtures, and equipment to be provided. Division 1 sections that are in the RFP need not be repeated in the offeror's proposal. The C.S.I. 16 - Division format is as follows:

| | |
|--|------------------------------------|
| Division 1 - General Requirements | Division 9 - Finishes |
| Division 2 - Site Work | Division 10 - Specialties |
| Division 3 - Concrete | Division 11 - Equipment |
| Division 4 - Masonry | Division 12 - Furnishings |
| Division 5 - Metals | Division 13 - Special Construction |
| Division 6 - Wood and Plastics | Division 14 - Conveying Systems |
| Division 7 - Thermal and Moisture Protection | Division 15 - Mechanical |
| Division 8 - Doors and Windows | Division 16 - Electrical |

2.4.1.3 Statement

A statement that the design, engineering and construction shall conform to the Request for Proposals (RFP) criteria, codes and industry standards. The statement shall state that all work will be done by licensed professionals of the appropriate disciplines.

2.4.1.4 Manufacturer's Catalog Cuts

Manufacturer catalog cuts on:

- (a) windows
- (b) doors
- (c) hardware
- (d) HVAC equipment
- (e) special acoustical, security, and fire protection systems.
- (f) any other catalog cuts deemed pertinent.

Manufacturer catalog cuts shall include industry standard quality indicators for the specific material or equipment and will be used to compare construction quality during proposal evaluation.

2.4.1.5 Proposal Drawings

2.4.1.5.1 Perspective Sketches

Two perspective sketches, one "birds eye" and one from eye level. The "birds eye" sketch should include as much of the surrounding area and existing buildings as necessary to depict the new facility and its contextual setting. This sketch should not be dominated by the roof. The other perspective sketch should show the most prominent entrance or facade from a common approach path. Sketches should be no smaller than 279 mm by 432 mm (11 by 17 inches) and illustrated and rendered using pen and color marker techniques which adequately illustrate the exterior materials, colors, and design intent. Either sketch will be the basis for an artist's rendering required after award (see Section 01015).

2.4.1.5.2 Site Plan

Site Plan, at a suitable scale (minimum 1:400) to fit on one standard size drawing sheet, and showing:

- a. Building location.
- b. Existing grades and contours, tentative finish grading and contours, drainage, and finish floor elevations.
- c. Utilities.
- d. Walks and retaining walls.
- e. Streets, drives, and parking.
- f. Site fixtures (i.e., lighting, HVAC and electrical equipment, refuse containers).

2.4.1.5.3 Architectural Floor Plans

Architectural floor plans, minimum scale 1:100, with all areas identified, showing:

- a. Gross square footage of building; exterior and interior dimensions; size of areas; critical and basic dimensions.
- b. Identify rooms by number, functional name, and area (areas may be listed in schedule on same sheet.
- c. Area calculations, "U" insulation values (floor, walls, ceilings) with calculations, and live loads.
- d. Door and window openings, locations and dimensions, including door swings.
- e. Special design features, such as security or fire protection provisions, room fixtures, and equipment.
- f. Plumbing fixture locations, including drinking fountains.

2.4.1.5.4 Exterior Elevations

Exterior elevations (all views), minimum scale 1:100, showing:

- a. Fenestration and material indications.
- b. Critical and basic dimensions.

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2.4.1.5.5 Building Section

Building section, minimum scale 1:100, indicating:

- a. Space for structural systems.
- b. Clearances.
- c. Materials.
- d. Special construction.
- e. Building and grade to the 1.5 meter line.

2.4.1.5.6 Typical wall section. Scale: 1:20.

2.4.1.5.7 Foundation Plan

2.4.1.5.8 Color Finish Boards

Furnish preliminary color finish board(s) depicting interior and exterior color schemes and materials.

2.4.1.5.9 Mechanical

Mechanical plans (minimum scale: 1:100) showing:

Plumbing system, including:

- Plumbing floor plans, schedules and specific notes;

Heating, ventilating, and air conditioning system, including:

- HVAC floor plans, schedules and specific notes;

2.4.1.5.10 Electrical Plan

Electrical plan (minimum scale: 1:100) showing:

- interior and exterior electrical distribution layout (primary electrical power runs, including service entry and major mechanical equipment feeds)

2.4.1.6 Design Analysis

Concept design analysis describing the basis for selection of material and equipment for each discipline to include grading, drainage, paving, utilities, architectural, structural, mechanical, and electrical. The description shall include reasons for selection of materials and design based on reducing maintenance. However, sufficient data shall be included so that the reviewer can determine equipment to be used and methods of operation and shall reference design standards and codes to be employed in the final design.

2.4.2 Design-Build Team's Qualifications and Past Performance Data

2.4.2.1 Qualifications

Provide completed personnel forms, Standard Form SF 255 for the architect/engineer design team and a SF 254 for each architectural and engineering firm involved in the project. Identify the project personnel structure and provide resumes for the design/build team members, such as the Contractor, the project manager, designers, design and construction quality control managers, project superintendent, and the construction firm, if not on the above forms. Resumes shall indicate experience in handling similar projects.

2.4.2.2 Past Performance Data

Furnish the information indicated below for prime civilian and military design and construction contracts your firm has received during the past 3 years, including completed contracts, those still in progress, and those with the Federal Government. For all contracts, indicate the contract number, the contracting agency (for Federal contracts), and points of contact (with telephone numbers). Note if contracts are design, design/build, or construction and whether the Offeror was the prime contractor or a subcontractor. If offeror represents the combining of two or more companies for the purpose of this RFP, the proposal shall indicate whether the firms have worked together in design/build ventures and for how long. In addition, each company of this joint venture shall list their Government contract experiences. Provide the name and current telephone number of a contact at each project location indicated.

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PROJECT & LOCATION
TYPE OF FACILITY
DOLLAR VALUE
CONTRACTING AGENCY
CONTRACTING OFFICER
DATE COMPLETED

2.4.2.2.1 New Companies

For new companies entering the marketplace (without relevant company experience) it will be the quality of the past performance of their key management personnel that will indicate the risk of good performance and become the basis of the past performance evaluation. Identifying how long key personnel stayed on the contract and how well they managed their portion of the contract will be of great importance in the evaluation process.

2.4.2.2.2 Private Sector References

Offeror should send their private sector references specified in their past performance records a letter authorizing the references to provide past performance information to a Government representative who will be assigned the task of conducting the past performance evaluation.

2.4.3 Project Management Plan

This is an overall plan showing how the offeror will control the job. Consideration will be given to such items as the design and construction periods offered, scheduling system to be used, identification of the critical elements in design and construction, which if delayed, could delay the entire project, method of development of payment estimates from the progress schedule, method of updating the progress schedule, design submittals and time allowed for Government reviews, and needs for temporary construction. The plan includes a Design-Construction Schedule, Quality Control Plan, and Contract Closeout Plan.

2.4.3.1 Design-Construction Schedule for Project

The offeror shall provide an outline of his plan for the design and construction of the project. Graphically represent the integration of all significant elements of design and construction in days of effort as required. The schedule shall be prepared in the form of a time scaled summary network diagram (e.g. Ghant Chart) graphically indicating the sequence proposed to accomplish each work operation and appropriate interdependencies between the various activities. The chart shall show the starting and completion dates of all activities on a linear horizontal time scale beginning with the dates of Contract Notice to Proceed and indicating calendar days to completion, including design and building phases. The significant activity in both the design and construction phases of the project shall be represented in a manner that each activity can be compared for reasonableness of cost as it is presented in the price proposal schedule. The sum of the activity costs will total the contract amount for the project. The Contractor shall indicate on the chart the important work activities that are critical to the timely overall completion of the project. Key dates for important features or portions of work features are milestone dates and shall be indicated on the chart.

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See Section 01310 PROJECT SCHEDULE, paragraph "Preliminary Project Schedule Submission," for a list of milestone dates.

2.4.3.2 Project Management and Quality Control

Proposed method of project management for both design and construction phases, including personnel, e.g., Project Manager, full time site superintendent, etc. Show an authority line diagram and provide the names, resumes, and levels of responsibility of the principal managers and technical personnel who will be directly responsible for the day-to-day design and construction activities. Include, as a minimum, the project manager; the project architect; the engineers responsible for civil, architectural, electrical, mechanical, and structural design; the quality control manager; and the full-time construction manager or site superintendent. Indicate whether each individual has had a significant part in any of the project examples cited. If reassignment of personnel is considered possible, provide the names and resumes of the alternative professionals in each assignment.

2.4.3.2.1 Minimum Personnel Qualifications

a. The project manager shall have a recognized four-year college degree in architecture, engineering (or related technical fields), or construction management and have at least 5 years experience in managing design and construction projects or 10 years experience in managing construction projects only.

b. The project architect shall have a recognized four-year college degree in architecture, be professionally licensed, 3 years experience as a lead architect, and have at least 5 years design experience, including experience in the design of laboratories.

c. Provide at least one professional licensed engineer for each of the design disciplines (civil, electrical, mechanical, and structural design) with at least 5 years experience in their discipline. Each lead designer shall have a recognized four-year (or longer) college degree in architecture or engineering.

d. Construction quality control manager and assistants qualifications are specified in Section 01440 CONSTRUCTION QUALITY CONTROL. Design quality control manager shall have same qualifications as the construction quality control manager; they shall not be the same person.

e. CADD personnel shall be proficient in the preparation of architectural and engineering drawings and the CADD equipment that will be used to create the required drawings and record drawings. The lead CADD person shall have at least 5 years experience on the proposed equipment. See also Sections 01300 SUBMITTALS FOR DESIGN and 01700 CONTRACT CLOSEOUT.

2.4.3.3 Quality Control Plan

Quality Control Plan is part of the Management Plan. The alliance of the project designer and builder on a project such as this naturally removes one commonly used method of quality control; that is, the usual reliance of the owner or the design consultant for monitoring construction quality. Although the Government will provide an on-site representative during

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construction, offerors are expected to develop a formal program of monitoring to ensure a high level of construction quality. Quality Control Plan shall reflect the requirements specified in Sections 01430 DESIGN QUALITY CONTROL and 01440 CONTRACTOR QUALITY CONTROL.

2.4.3.4 Closeout Plan

A Closeout Plan shall be furnished in a brief structured time scale schedule reflecting the planned activities during the final 90 days of the contract activity, such as those required in Sections 01440 CONTRACTOR QUALITY CONTROL and 01700 PROJECT CLOSEOUT (e.g. Testing of equipment and systems with schedules and reports, Commissioning of HVAC Systems, Equipment instruction and training schedules, O&M Manuals, record drawings, transfer procedures and schedules, pre-final inspection procedures and correction of deficiencies, warranty data submission and planned implementation, cleanup of administrative deficiencies, and move off site).

2.4.4 Cost/Price Proposal

The offeror's price, to be considered in the Competitive Negotiation Evaluation, shall be the offeror's Total Base Bid, plus all options, as shown on the Price Proposal Schedule. Cost will be evaluated separately, after evaluation of technical data.

2.4.5 Subcontracting Plan (APPLIES TO LARGE BUSINESS ONLY)

All large businesses shall submit a subcontracting plan with their technical and price/cost proposals. The plan should be prepared in accordance with FAR 52.219-9. Failure to submit an acceptable subcontracting plan may make the offeror ineligible for award of the contract. The subcontracting plan submitted by a large business will be reviewed for compliance and will be scored in accordance with AFARS 19.7, Appendix CC. The submission of the subcontracting plan is in no way advantageous to large businesses over any small business in the evaluation process.

2.4.5.1 Fort Worth District's Goal of Total Subcontracted Dollars

- Small Business Subcontracting Goals - 61.2%
- Small Disadvantaged Business Subcontracting Goals - 9.1%
- Woman Owned Small Business Subcontracting Goals - 4.5%
- University/Minority Institutions Subcontracting Goals - 5.5% (Where Applicable).

**3. UNNECESSARILY ELABORATE PROPOSALS OR QUOTATIONS (APR 1984)
(FAR 52.215-7)**

Unnecessarily elaborate brochures or other presentations beyond those sufficient to present a complete and effective response to this solicitation are not desired and may be construed as an indication of the offeror's or quoter's lack of cost consciousness. Elaborate art work, expensive paper and bindings, and expensive visual and other presentation aids are neither necessary nor wanted.

4. REQUIREMENTS FOR SPECIAL MARKING OF PROPOSAL DATA

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Envelopes or other cover for material submitted in response to RFP shall be opaque, and must be so presented that they may be easily identified. Outside of envelope or other cover must show:

- a. Destination of Proposal.
- b. Name and location of project as described in the RFP Documents.
- c. Solicitation Number.
- d. Name and Address of Offeror.

Submit proposal in the format specified. Oral or telephonic proposals or modifications will not be considered. All required information in the form must be supplied. Signature must be in longhand, and be executed by a principal duly authorized to make contracts. Offeror's legal name must be fully stated.

Mail or deliver the proposal to the address listed on Standard Form 1442, "Solicitation, Offer and Award Form."

5. PAYMENT FOR PROPOSALS

Offerors will not be reimbursed for the costs of their proposals.

NOTE: FAILURE TO SUBMIT ALL THE DATA INDICATED IN THIS SECTION MAY BE CAUSE FOR DETERMINING A PROPOSAL NON-RESPONSIVE AND, THEREFORE, NOT CONSIDERED FOR AWARD.

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SECTION 00600

REPRESENTATIONS & CERTIFICATIONS

1 52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that--

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory--

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2)(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above _____

(insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the offeror deletes or modifies subparagraph (a)(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

2 52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including

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profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

3 52.204-3 TAXPAYER IDENTIFICATION (JUN 1997)

(a) Definitions.

"Common parent," as used in this solicitation provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Corporate status," as used in this solicitation provision, means a designation as to whether the offeror is a corporate entity, an unincorporated entity (e.g., sole proprietorship or partnership), or a corporation providing medical and health care services.

"Taxpayer Identification Number (TIN)," as used in this solicitation provision, means the number required by the IRS to be used by the offeror in reporting income tax and other returns.

(b) All offerors are required to submit the information required in paragraphs (c) through (e) of this solicitation provision in order to comply with reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M and implementing regulations issued by the Internal Revenue Service (IRS). If the resulting contract is subject to the reporting requirements described in FAR 4.903, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) Taxpayer Identification Number (TIN).

☐ TIN: _____.

☐ TIN has been applied for.

☐ TIN is not required because:

☐ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.;

☐ Offeror is an agency or instrumentality of a foreign government;

☐ Offeror is an agency or instrumentality of a Federal, state, or local government;

☐ Other. State basis. _____

(d) Corporate Status.

☐ Corporation providing medical and health care services, or engaged in the billing and collecting of payments for such services;

☐ Other corporate entity;

☐ Not a corporate entity;

☐ Sole proprietorship

☐ Partnership

☐ Hospital or extended care facility described in 26 CFR 501(c)(3) that is exempt from taxation under 26 CFR 501(a).

(e) Common Parent.

☐ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

☐ Name and TIN of common parent:

Name _____

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TIN _____
(End of provision)

4 52.204-5 WOMEN-OWNED BUSINESS (OCT 1995)

(a) Representation. The offeror represents that it [] is, [] is not a women-owned business concern.

(b) Definition. "Women-owned business concern," as used in this provision, means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(End of provision)

5 52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (MAR 1996)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that--

(i) The Offeror and/or any of its Principals--

(A) Are / / are not / / presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have / / have not / /, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are / / are not / / presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision

(a)(1)(i)(B) of this provision.

(ii) The Offeror has / / has not / /, within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material

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representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

6 52.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (SEP 1994)

(a) Definitions.

As used in this provision--

(1) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(1)(A)), to be a country the government of which has repeatedly provided support for acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means--

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtedness of a firm.

(b) Prohibition on award.

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) Disclosure.

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclose such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include--

(1) Identification of each government holding a significant interest;

and

(2) A description of the significant interest held by each government.

(End of provision)

7 52.209-7003 RESERVED

8 52.215-6 PLACE OF PERFORMANCE (OCT 1997)

(a) The offeror or respondent, in the performance of any contract resulting from this solicitation, [] intends, [] does not intend (check applicable block) to use one or more plants or facilities located at a different address from the address of the offeror or respondent as indicated in this proposal or response to request for information.

(b) If the offeror or respondent checks "intends" in paragraph (a) of this provision, it shall insert in the following spaces the required information:

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Place of performance (street
address, city, state, county, zip
code)

Name and address of owner and
operator of the plant or facility
if other than offeror or respondent

(End of provision)

#2

9 52.215-7 ANNUAL REPRESENTATIONS AND CERTIFICATIONS--NEGOTIATION (OCT 1997)

The offeror has (check the appropriate block):
[] (a) Submitted to the contracting office issuing this solicitation,
annual representations and certifications dated _____
(insert date of signature on submission) that are incorporated herein by
reference, and are current, accurate, and complete as of the date of this
proposal, except as follows _____

(insert changes that affect only this proposal; if "none," so state):

[] (b) Enclosed its annual representations and certifications.
(End of provision)

10 52.215-11 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--MODIFICATIONS (OCT 1997)

(a) This clause shall become operative only for any modification to this contract involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, except that this clause does not apply to any modification if an exception under FAR 15.403-1 applies.

(b) If any price, including profit or fee, negotiated in connection with any modification under this clause, or any cost reimbursable under this contract, was increased by any significant amount because (1) the Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data, (2) a subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data, or (3) any of these parties furnished data of any description that were not accurate, the price or cost shall be reduced accordingly and the contract shall be modified to reflect the reduction. This right to a price reduction is limited to that resulting from defects in data relating to modifications for which this clause becomes operative under paragraph (a) of this clause.

(c) Any reduction in the contract price under paragraph (b) of this clause due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which--

(1) The actual subcontract; or

(2) The actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(d)(1) If the Contracting Officer determines under paragraph (b) of this clause that a price or cost reduction should be made, the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted.

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer.

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract.

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(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2)(i) Except as prohibited by subdivision (d)(2)(ii) of this clause, an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if--

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the "as of" date specified on its Certificate of Current Cost or Pricing Data, and that the data were not submitted before such date.

(ii) An offset shall not be allowed if--

(A) The understated data were known by the Contractor to be understated before the "as of" date specified on its Certificate of Current Cost or Pricing Data; or

(B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the "as of" date specified on its Certificate of Current Cost or Pricing Data.

(e) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid--

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

(2) A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data that were incomplete, inaccurate, or noncurrent.

(End of clause)

11 52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (JAN 1997)

(a)(1) The standard industrial classification (SIC) code for this acquisition is 1542

(2) The small business size standard is \$17 million

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it [] is, [] is not a small business concern.

(2) (Complete only if offeror represented itself as a small business concern in block (b)(1) of this section.) The offeror represents as part of its offer that it [] is, [] is not a small disadvantaged business concern.

(3) (Complete only if offeror represented itself as a small business concern in block (b)(1) of this section.) The offeror represents as part of its offer that it [] is, [] is not a women-owned small business concern.

(c) Definitions. "Joint venture," for purposes of a small disadvantaged business (SDB) set-aside or price evaluation preference (as prescribed at 13 CFR 124.321), is a concern that is owned and controlled by one or more socially and economically disadvantaged individuals entering into a joint venture agreement with one or more business concerns and is considered to be affiliated for size purposes with such other concern(s). The combined annual receipts or employees of the concerns entering into the joint venture must meet the applicable size standard corresponding to the SIC code designated for the contract. The majority of the venture's earnings must accrue directly to the socially and economically disadvantaged individuals in the SDB concern(s) in the joint venture. The percentage of the ownership involvement in a joint venture by disadvantaged individuals must be at least 51 percent.

"Small business concern," as used in this provision, means a concern,

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including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

"Small disadvantaged business concern," as used in this provision, means a small business concern that (1) is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and (2) has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR Part 124.

"Women-owned small business concern," as used in this provision, means a small business concern--

(1) Which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice. (1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small or small disadvantaged business concern in order to obtain a contract to be awarded under the preference programs established pursuant to sections 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

12 52.219-19 SMALL BUSINESS CONCERN REPRESENTATION FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (JAN 1997)

(a) Definition.

"Emerging small business" as used in this solicitation, means a small business concern whose size is no greater than 50 percent of the numerical size standard applicable to the standard industrial classification code assigned to a contracting opportunity.

(b) (Complete only if the Offeror has represented itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.)

The Offeror [] is, [] is not an emerging small business.

(c) (Complete only if the Offeror is a small business or an emerging small business, indicating its size range.)

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

| No. of Employees | Avg. Annual Gross Revenues |
|------------------|---------------------------------|
| ____ 50 or fewer | _____ \$1 million or less |
| ____ 51-100 | _____ \$1,000,001-\$2 million |
| ____ 101-250 | _____ \$2,000,001-\$3.5 million |

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| | |
|-------------------------------------|--|
| <input type="checkbox"/> 251-500 | <input type="checkbox"/> \$3,500,001-\$5 million |
| <input type="checkbox"/> 501-750 | <input type="checkbox"/> \$5,000,001-\$10 million |
| <input type="checkbox"/> 751-1,000 | <input type="checkbox"/> \$10,000,001-\$17 million |
| <input type="checkbox"/> Over 1,000 | <input type="checkbox"/> Over \$17 million |

(End of provision)

13 52.219-21 SMALL BUSINESS SIZE REPRESENTATION FOR TARGETED INDUSTRY CATEGORIES UNDER THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (JAN 1997)

(Complete only if the Offeror has represented itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.)

Offeror represents as follows:

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

| No. of Employees | Avg. Annual Gross Revenues |
|--------------------------------------|--|
| <input type="checkbox"/> 50 or fewer | <input type="checkbox"/> \$1 million or less |
| <input type="checkbox"/> 51-100 | <input type="checkbox"/> \$1,000,001-\$2 million |
| <input type="checkbox"/> 101-250 | <input type="checkbox"/> \$2,000,001-\$3.5 million |
| <input type="checkbox"/> 251-500 | <input type="checkbox"/> \$3,500,001-\$5 million |
| <input type="checkbox"/> 501-750 | <input type="checkbox"/> \$5,000,001-\$10 million |
| <input type="checkbox"/> 751-1,000 | <input type="checkbox"/> \$10,000,001-\$17 million |
| <input type="checkbox"/> Over 1,000 | <input type="checkbox"/> Over \$17 million |

(End of provision)

14 52.219-7000 SMALL DISADVANTAGED BUSINESS CONCERN REPRESENTATION (DoD CONTRACTS) (JUN 1997)

(a) Definition. "Small disadvantaged business concern," as used in this provision, means a small business concern, owned and controlled by individuals who are both socially and economically disadvantaged, as defined by the Small Business Administration at 13 CFR Part 124, the majority of earnings of which directly accrue to such individuals. This term also means a small business concern owned and controlled by an economically disadvantaged Indian tribe or Native Hawaiian organization which meets the requirements of 13 CFR 124.112 or 13 CFR 124.113, respectively. In general, 13 CFR Part 124 describes a small disadvantaged business concern as a small business concern--

(1) Which is at least 51 percent unconditionally owned by one or more socially and economically disadvantaged individuals; or

(2) In the case of any publicly owned business, at least 51 percent of the voting stock is unconditionally owned by one or more socially and economically disadvantaged individuals; and

(3) Whose management and daily business operations are controlled by one or more such individuals.

(b) Representations. Check the category in which your ownership falls--

☐ Subcontinent Asian (Asian-Indian) American (U.S. citizen with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal)

☐ Asian-Pacific American (U.S. citizen with origins from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, U.S. Trust Territory of the Pacific Islands (Republic of Palau), the Northern Mariana Islands, Laos, Kampuchea (Cambodia), Taiwan, Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Republic of the Marshall Islands, the Federated States of Micronesia, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru)

☐ Black American (U.S. citizen)

☐ Hispanic American (U.S. citizen with origins from South America, Central America, Mexico, Cuba, the Dominican Republic, Puerto Rico, Spain, or Portugal)

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_____ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians, including Indian tribes or Native Hawaiian organizations)
_____ Individual/concern, other than one of the preceding, currently certified for participation in the Minority Small Business and Capital Ownership Development Program under Section 8(a) of the Small Business Act

_____ Other

(c) Complete the following--

(1) The offeror is _____ is not _____ a small disadvantaged business concern.

(2) The Small Business Administration (SBA) has _____ has not _____ made a determination concerning the offeror's status as a small disadvantaged business concern. If the SBA has made a determination, the date of the determination was _____ and the offeror--
_____ Was found by SBA to be socially and economically disadvantaged and no circumstances have changed to vary that determination.

_____ Was found by SBA not to be socially and economically disadvantaged but circumstances which caused the determination have changed.

(d) Penalties and Remedies. Anyone who misrepresents the status of a concern as a small disadvantaged business for the purpose of securing a contract or subcontract shall--

(1) Be punished by imposition of a fine, imprisonment, or both;

(2) Be subject to administrative remedies, including suspension and debarment; and

(3) Be ineligible for participation in programs conducted under authority of the Small Business Act.

(End of provision)

15 52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (APR 1984)

The offeror represents that--

(a) It /_/ has, /_/ has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114;

(b) It /_/ has, /_/ has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

(R 7-2003.14(b)(1)(B) 1973 APR)

16 52.223-1 CLEAN AIR AND WATER CERTIFICATION (APR 1984)

The Offeror certifies that--

(a) Any facility to be used in the performance of this proposed contract is /_/ is not /_/ listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

(b) The Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the EPA, indicating that any facility that the Offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and

(c) The Offeror will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

(End of provision)

(AV 7-2003.71 1977 JUN)

(AV 1-1.2302-1)

17 52.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term "supplies" is

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defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it--

_____ Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

_____ Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

18 52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 1996)

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that----

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

/___/ (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

/___/ (ii) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

/___/ (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

/___/ (iv) The facility does not fall within Standard Industrial Classification Code (SIC) designations 20 through 39 as set forth in Section 19.102 of the Federal Acquisition Regulation; or

/___/ (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

(End of provision)

END OF SECTION 00600

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| 98 | 52.252-6 | AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984) |
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SECTION 00700

CONTRACT CLAUSES

1 52.252-2 CLAUSES INCORPORATED BY REFERENCE (JUN 1988)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.
(End of clause)

2 52.0-4000 CONTRACT CLAUSE AND SOLICITATION PROVISION NUMBERING (FEB 1996) (LOCAL)
(52.0000-4000)

This document is computer generated by the Standard Army Automated Contracting System (SAACONS). The numbering system used by the computer for contract clauses and solicitation provisions differs slightly from the procurement regulations. It is similar and easily recognizable. The Federal Acquisition Regulation (FAR) numbering format for contract clauses and solicitation provisions is 52.2xx-x, with the specific FAR provision or clause number being a sequence assigned within each section or subpart 52.2. SAACONS always uses a 9 digit number (e.g. 52.2XX.XXXX). FAR contract clauses and solicitation provisions are recognized by a "0" in the 6th digit of the SAACONS number. Department of Defense Federal Acquisition Regulation Supplement (DFARS) contract clauses and solicitation provisions are recognized by a "7" in the 6th digit of the SAACONS number. Army Federal Acquisition Regulation Supplement (AFARS) contract clauses and solicitation provisions are recognized by a "9" in the 6th digit of the SAACONS number. Engineer Federal Acquisition Regulation Supplement (EFARS) contract clauses and solicitation provisions are recognized by a "5" in the 6th digit of the SAACONS number. Local instructions and provisions which were previously referred to by paragraph number only, now appear as "local clauses" with local clause numbers. They are recognizable by a "4" in the 6th digit of the SAACONS number. FAR, DFARS, AFARS, and EFARS clauses and provisions that have

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recently been modified or added may also be numbered as local clauses pending their integration into the SAACONS database. Until the integration is complete the title line will identify the regulatory source. Examples of the difference in the numbering are provided below:

| STANDARD NUMBERING SYSTEM | | SAACONS |
|---------------------------|--------------|-------------|
| FAR | 52.227-1 | 52.227-0001 |
| DFARS | 252.243-7000 | 52.243-7000 |
| AFARS | 52.237-9030 | 52.237-9030 |
| EFARS | 52.202-10001 | 52.202.5001 |
| LOCAL | NONE | 52.XXX.4XXX |

Authorized alternate versions of the clauses are sometimes used, and are identified in the applicable regulation by sequential Roman numeral identifiers. When an alternate version is used the SAACONS clause number will be followed by the appropriate Roman numeral identified. For example, FAR Clause 52.202-1 in its Alternate I version is entitled "DEFINITIONS (APR 1984)--ALTERNATE I (APR 1984)". The clause number will appear as "52.202-1 I". An Alternate II version of a clause would appear as "52.xxx-xxxx II".

3 52.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) Definition. "Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the Contracting Officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the Contracting Officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

4 52.202-1 I DEFINITIONS (OCT 1995)--ALTERNATE I (APR 1984)

(a) "Head of the agency" (also called "agency head") or "Secretary" means the Secretary (or Attorney General, Administrator, Governor, Chairperson, or other chief official, as appropriate) of the agency, including any deputy or assistant chief official of the agency; and the term "authorized representative" means any person, persons, or board (other than the Contracting Officer) authorized to act for the head of the agency or Secretary.

(b) Commercial component means any component that is a commercial item.

(c) Component means any item supplied to the Federal Government as part of an end item or of another component.

(d) Nondevelopmental item means--

(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;

(2) Any item described in paragraph (e)(1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(3) Any item of supply being produced that does not meet the requirements of paragraph (e)(1) or (e)(2) solely because the item is not yet in use.

(e) "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(f) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

(End of clause)

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5 52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) above, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

(R 7-104.16 1952 MAR)

6 52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a Contractor and subject to the Contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

(R 7-103.20 1958 JAN)

(R 1-1.503)

(R 1-7.102-18)

7 52.203-7 ANTI-KICKBACK PROCEDURES (JUL 1995)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the

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purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor" as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from--

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold from sums owed a subcontractor under the prime contract the amount of the kickback. The Contracting Officer may order that monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed \$100,000.

(End of clause)

8 52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b),

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or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

(i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or

(ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.

(5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.

(c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.

(d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

9 52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 1997)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in

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connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under title 5, United States Code, including a position under a temporary appointment.

(2) A member of the uniformed services, as defined in subsection 101(3), title 37, United States Code.

(3) A special Government employee, as defined in section 202, title 18, United States Code.

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State," as used in this clause, means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee

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of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this

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section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding \$100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other

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provision.

(End of clause)

10 52.203-7001 SPECIAL PROHIBITION ON EMPLOYMENT (JUN 1997)

(a) Definitions.

As used in this clause--

(1) "Arising out of a contract with the DoD" means any act in connection with--

(i) Attempting to obtain,

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) "Conviction of fraud or any other felony" means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of nolo contendere, for which sentence has been imposed.

(3) "Date of conviction" means the date judgment was entered against the individual.

(b) 10 U.S.C. 2408 provides that any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from:

(1) Working in a management or supervisory capacity on any DoD contract or first-tier subcontract;

(2) Serving on the board of directors of any DoD Contractor or first-tier subcontractor; or

(3) Serving as a consultant to any DoD Contractor or first-tier subcontractor.

(c) Unless waived, the prohibition in paragraph (b) applies for five years from the date of conviction.

(d) 10 U.S.C. 2408 further provides that a defense Contractor or first-tier subcontractor shall be subject to a criminal penalty of not more than \$500,000 if convicted of knowingly--

(1) Employing a person under a prohibition specified in paragraph (b) of this clause; or

(2) Allowing such a person to serve on the board of directors of the Contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as--

(1) Suspension or debarment;

(2) Cancellation of the contract at no cost to the Government; or

(3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibitions in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify--

(1) The person involved;

(2) The nature of the conviction and resultant sentence or punishment imposed;

(3) The reasons for the requested waiver; and,

(4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Benefits Office, U.S. Department of Justice, telephone (202) 616-3507.

(End of clause)

11 52.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)

(a) The Contractor shall display prominently in common work areas within business segments performing work under Department of Defense (DoD)

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contracts, DoD Hotline Posters prepared by the DoD Office of the Inspector General.

(b) DoD Hotline Posters may be obtained from the DoD Inspector General, ATTN: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884.

(c) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports.

(End of clause)

12 52.204-4 PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER (JUN 1996)

(a) In accordance with Executive Order 12873, dated October 20, 1993, as amended by Executive Order 12995, dated March 25, 1996, the Offeror/Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed/copied double-sided on recycled paper that has at least 20 percent postconsumer material.

(b) The 20 percent standard applies to high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white woven envelopes, and other uncoated printed and writing paper, such as writing and office paper, book paper, cotton fiber paper, and cover stock. An alternative to meeting the 20 percent postconsumer material standard is 50 percent recovered material content of certain industrial by-products.

(End of clause)

13 52.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (DEC 1991)

(a) Definition.

"Cooperative agreement holder" means a State or local government; a private, nonprofit organization; a tribal organization (as defined in section 4(c) of the Indian Self-Determination and Education Assistance Act (Pub. L. 93-268; 25 U.S.C. 450(c))); or an economic enterprise (as defined in section 3(e) of the Indian Financing Act of 1974 (Pub. L. 93-362; 25 U.S.C. 1452(e))) whether such economic enterprise is organized for profit or nonprofit purposes; which has an agreement with the Defense Logistics Agency to furnish procurement technical assistance to business entities.

(b) The Contractor shall provide cooperative agreement holders, upon their request, with a list of those appropriate employees or offices responsible for entering into subcontracts under defense contracts. The list shall include the business address, telephone number, and area of responsibility of each employee or office.

(c) The Contractor need not provide the listing to a particular cooperative agreement holder more frequently than once a year.

(End of clause)

14 52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS
DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)

(a) The Government suspends or debar Contractors to protect the Government's interest. The Contractor shall not enter into any subcontract in excess of \$25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed \$25,000, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principals, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the

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following:

- (1) The name of the subcontractor.
 - (2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.
 - (3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.
 - (4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.
- (End of clause)

15 52.209-7004 RESERVED

16 52.215-2 AUDIT AND RECORDS--NEGOTIATION (AUG 1996)

(a) As used in this clause, records includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Examination of costs. If this is a cost-reimbursement, incentive, time-and-materials, labor-hour, or price redeterminable contract, or any combination of these, the Contractor shall maintain and the Contracting Officer, or an authorized representative of the Contracting Officer, shall have the right to examine and audit all records and other evidence sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred directly or indirectly in performance of this contract. This right of examination shall include inspection at all reasonable times of the Contractor's plants, or parts of them, engaged in performing the contract.

(c) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with any pricing action relating to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

- (1) The proposal for the contract, subcontract, or modification;
- (2) The discussions conducted on the proposal(s), including those related to negotiating;
- (3) Pricing of the contract, subcontract, or modification; or
- (4) Performance of the contract, subcontract or modification.

(d) Comptroller General--(1) The Comptroller General of the United States, or an authorized representative, shall have access to and the right to examine any of the Contractor's directly pertinent records involving transactions related to this contract or a subcontract hereunder.

(2) This paragraph may not be construed to require the Contractor or subcontractor to create or maintain any record that the Contractor or subcontractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) Reports. If the Contractor is required to furnish cost, funding, or performance reports, the Contracting Officer or an authorized representative of the Contracting Officer shall have the right to examine and audit the supporting records and materials, for the purpose of evaluating (1) the effectiveness of the Contractor's policies and procedures to produce data compatible with the objectives of these reports and (2) the data reported.

(f) Availability. The Contractor shall make available at its office at all reasonable times the records, materials, and other evidence described in paragraphs (a), (b), (c), (d), and (e) of this clause, for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in Subpart 4.7, Contractor Records Retention, of the Federal Acquisition Regulation (FAR), or for any longer period required by statute or by other clauses of this contract.

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In addition--

(1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement; and

(2) Records relating to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(g) The Contractor shall insert a clause containing all the terms of this clause, including this paragraph (a), in all subcontracts under this contract that exceed the simplified acquisition threshold, and--

(1) That are cost-reimbursement, incentive, time-and-materials, labor-hour, or price-redeterminable type or any combination of these;

(2) For which cost or pricing data are required; or

(3) That require the subcontractor to furnish reports as discussed in paragraph (e) of this clause.

The clause may be altered only as necessary to identify properly the contracting parties and the Contracting Officer under the Government prime contract.

(End of clause)

17 52.219-8 UTILIZATION OF SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL
BUSINESS CONCERNS (JUN 1997)

(a) It is the policy of the United States that small business concerns, small business concerns owned and controlled by socially and economically disadvantaged individuals and small business concerns owned and controlled by women shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, small business concerns owned and controlled by socially and economically disadvantaged individuals and small business concerns owned and controlled by women.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

(c) As used in this contract, the term "small business concern" shall mean a small business as defined pursuant to section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto. The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall mean a small business concern (1) which is at least 51 percent unconditionally owned by one or more socially and economically disadvantaged individuals; or, in the case of any publicly owned business, at least 51 per centum of the stock of which is unconditionally owned by one or more socially and economically disadvantaged individuals; and (2) whose management and daily business operations are controlled by one or more of such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one of these entities which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR 124. The Contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Subcontinent Asian Americans, and other minorities, or any other individual found to be disadvantaged by the Administration pursuant to section 8(a) of the Small Business Act. The Contractor shall presume that socially and economically disadvantaged entities also include Indian

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Tribes and Native Hawaiian Organizations.

(d) The term "small business concern owned and controlled by women" shall mean a small business concern (1) which is at least 51 percent owned by one or more women, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women, and (2) whose management and daily business operations are controlled by one or more women; and

(e) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a small business concern owned and controlled by socially and economically disadvantaged individuals or a small business concern owned and controlled by women.

(End of clause)

18 52.219-4001 NATIVE AMERICAN GRAVES PROTECTION (JAN 1993) (52.0219-4001)

(a) The Native American Graves Protection and Repatriation Act, hereinafter referred to as "the Act", enacted November 16, 1990, (Public Law 101-601, 25 U.S. Code) is applicable to this contract.

(b) The contractor may discover Native American human remains and objects, as defined in the Act, during contract execution. In the event of such discovery the contractor shall immediately cease activity in the area of the discovery and shall immediately notify the contracting officer of the discovery. The contractor shall make a reasonable effort to protect the items discovered in accordance with the Act and before resuming activity in the area. Fines and penalties for illegal trafficking in Native American human remains and cultural items are as defined in the Act.

(c) Upon receipt of notification of the discovery, the contracting officer will notify the appropriate authorities as required by the Act. The cessation of the activity in the area shall be for a minimum period of 30 days after the contracting officer has received certification of receipt of notification from the appropriate authorities, in accordance with the Act.

(d) The contractor shall not resume activity in the area of the discovery until the contracting officer has given the contractor notice that the contractor may resume the activity.

19 52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)

If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice, including all relevant information, to the Contracting Officer.

(End of clause)

20 52.222-3 CONVICT LABOR (AUG 1996)

The Contractor agrees not to employ in the performance of this contract any person undergoing a sentence of imprisonment which has been imposed by any court of a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands. This limitation, however, shall not prohibit the employment by the Contractor in the performance of this contract of persons on parole or probation to work at paid employment during the term of their sentence or persons who have been pardoned or who have served their terms. Nor shall it prohibit the employment by the Contractor in the performance of this contract of persons confined for violation of the laws of any of the States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(a)(1) The worker is paid or is in an approved work training program on a voluntary basis;

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(2) Representatives of local union central bodies or similar labor union organizations have been consulted;

(3) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services; and

(4) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and

(b) The Attorney General of the United States has certified that the work-release laws or regulations of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

21 52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--OVERTIME COMPENSATION

(JUL 1995)

(a) Overtime requirements. No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics (see Federal Acquisition Regulation (FAR) 22.300) shall require or permit any such laborers or mechanics in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than 1 1/2 times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(b) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in paragraph (a) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the provisions set forth in paragraph (a) of this clause in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in paragraph (a) of this clause.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer shall upon his or her own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same Prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same Prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in paragraph (b) of this clause.

(d) Payrolls and basic records. (1) The Contractor or subcontractor shall maintain payrolls and basic payroll records during the course of contract work and shall preserve them for a period of 3 years from the completion of the contract for all laborers and mechanics working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Nothing in this paragraph shall require the duplication of records required to be maintained for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Davis-Bacon Act.

(2) The records to be maintained under paragraph (d)(1) of this clause shall be made available by the Contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit such representatives to interview employees during working hours on the job.

(e) Subcontracts. The Contractor or subcontractor shall insert in any

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subcontracts exceeding \$100,000, the provisions set forth in paragraphs (a) through (e) of this clause and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the provisions set forth in paragraphs (a) through (e) of this clause.

(End of clause)

22 52.222-6 DAVIS-BACON ACT (FEB 1995)

(a) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (d) of this clause; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such period. Such laborers and mechanics shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in the clause entitled Apprentices and Trainees. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (b) of this clause) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b)(1) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination.

(ii) The classification is utilized in the area by the construction industry.

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(iv) With respect to helpers, such a classification prevails in the area in which the work is performed.

(2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator or an authorized representative will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(3) In the event the Contractor, the laborers or mechanics to be

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employed in the classification, or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (b)(2) and (b)(3) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(d) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(End of clause)

23 52.222-7 WITHHOLDING OF FUNDS (FEB 1988)

The Contracting Officer shall, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same Prime Contractor, or any other Federally assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(End of clause)

24 52.222-8 PAYROLLS AND BASIC RECORDS (FEB 1988)

(a) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under paragraph (d) of the clause entitled Davis-Bacon Act, that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

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communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(b)(1) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph (a) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify--

(i) That the payroll for the payroll period contains the information required to be maintained under paragraph (a) of this clause and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR Part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (b)(2) of this clause.

(4) The falsification of any of the certifications in this clause may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(c) The Contractor or subcontractor shall make the records required under paragraph (a) of this clause available for inspection, copying, or transcription by the Contracting Officer or authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit the Contracting Officer or representatives of the Contracting Officer or the Department of Labor to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit required records or to make them available, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(End of clause)

25 52.222-9 APPRENTICES AND TRAINEES (FEB 1988)

(a) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually

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registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(b) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(c) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(End of clause)

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The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(End of clause)

27 52.222-11 SUBCONTRACTS (LABOR STANDARDS) (FEB 1988)

(a) The Contractor or subcontractor shall insert in any subcontracts the clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Withholding of Funds, Subcontracts (Labor Standards), Contract Termination--Debarment, Disputes Concerning Labor Standards, Compliance with Davis-Bacon and Related Act Regulations, and Certification of Eligibility, and such other clauses as the Contracting Officer may, by appropriate instructions, require, and also a clause requiring subcontractors to include these clauses in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all the contract clauses cited in this paragraph.

(b)(1) Within 14 days after award of the contract, the Contractor shall deliver to the Contracting Officer a completed Statement and Acknowledgment Form (SF 1413) for each subcontract, including the subcontractor's signed and dated acknowledgment that the clauses set forth in paragraph (a) of this clause have been included in the subcontract.

(2) Within 14 days after the award of any subsequently awarded subcontract the Contractor shall deliver to the Contracting Officer an updated completed SF 1413 for such additional subcontract.

(End of clause)

28 52.222-12 CONTRACT TERMINATION--DEBARMENT (FEB 1988)

A breach of the contract clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Davis-Bacon and Related Act Regulations, or Certification of Eligibility may be grounds for termination of the contract, and for debarment as a Contractor and subcontractor as provided in 29 CFR 5.12.

(End of clause)

29 52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are hereby incorporated by reference in this contract.

(End of clause)

30 52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees of their representatives.

(End of clause)

31 52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)

(a) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

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(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(End of clause)

32 52.222-26 EQUAL OPPORTUNITY (APR 1984)

(a) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with subparagraphs (b)(1) through (11) below. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(b) During performing this contract, the Contractor agrees as follows:

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. Standard Form 100 (EEO-1), or any successor form, is the prescribed form to be filed within 30 days following the award, unless filed within 12 months preceding the date of award.

(8) The Contractor shall permit access to its books, records, and accounts by the contracting agency or the Office of Federal Contract Compliance Programs (OFCCP) for the purposes of investigation to ascertain the Contractor's compliance with the applicable rules, regulations, and orders.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended, the rules, regulations, and orders of the Secretary of Labor, or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraph (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as

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amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

(End of clause)

(R 7-103.18 1978 SEP)

(R 1-12.803-2)

(R 7-607.13 1978 SEP)

33 52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (APR 1984)

(a) Definitions.

"Covered area," as used in this clause, means the geographical area described in the solicitation for this contract.

"Director," as used in this clause, means Director, Office of Federal Contract Compliance Programs (OFCCP), United States Department of Labor, or any person to whom the Director delegates authority.

"Employer's identification number," as used in this clause, means the Federal Social Security number used on the employer's quarterly federal tax return, U.S. Treasury Department Form 941.

"Minority," as used in this clause, means--

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of \$10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor's or subcontractor's failure to make good-faith efforts to achieve the plan's goals.

(d) The Contractor shall implement the affirmative action procedures in subparagraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

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(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (g)(2) above.

(6) Disseminate the Contractor's equal employment policy by--

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all onsite supervisory personnel before initiating construction work at a job site.

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A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news media, specifically including minority and female news media. Provide written notification to, and discuss this policy with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in subparagraphs (g)(1) through (16). The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under subparagraphs (g)(1) through (16), provided the Contractor--

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

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(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at least as extensive as those prescribed in paragraph (g) above, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Director shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to--

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

(o) Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(End of clause)

(R 7-603.60 1978 SEP)

34 52.222-35 AFFIRMATIVE ACTION FOR SPECIAL DISABLED AND VIETNAM ERA VETERANS

(APR 1984)

(a) Definitions.

"Appropriate office of the State employment service system," as used in this clause, means the local office of the Federal-State national system of public employment offices assigned to serve the area where the employment opening is to be filled, including the District of Columbia, Guam, Puerto Rico, Virgin Islands, American Samoa, and the Trust Territory of the Pacific Islands.

"Openings that the Contractor proposes to fill from within its own organization," as used in this clause, means employment openings for which no one outside the Contractor's organization (including any affiliates, subsidiaries, and the parent companies) will be considered and includes any openings that the Contractor proposes to fill from regularly established "recall" lists.

"Openings that the Contractor proposes to fill under a customary and traditional employer-union hiring arrangement," as used in this clause, means employment openings that the Contractor proposes to fill from union halls, under their customary and traditional employer-union hiring relationship.

"Suitable employment openings," as used in this clause--

(1) Includes, but is not limited to, openings that occur in jobs categorized as--

(i) Production and nonproduction;

(ii) Plant and office;

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- (iii) Laborers and mechanics;
- (iv) Supervisory and nonsupervisory;
- (v) Technical; and
- (vi) Executive, administrative, and professional positions compensated on a salary basis of less than \$25,000 a year; and

(2) Includes full-time employment, temporary employment of over 3 days, and part-time employment, but not openings that the Contractor proposes to fill from within its own organization or under a customary and traditional employer-union hiring arrangement, nor openings in an educational institution that are restricted to students of that institution.

(b) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against the individual because the individual is a special disabled or Vietnam Era veteran. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified special disabled and Vietnam Era veterans without discrimination based upon their disability or veterans' status in all employment practices such as--

- (i) Employment;
- (ii) Upgrading;
- (iii) Demotion or transfer;
- (iv) Recruitment;
- (v) Advertising;
- (vi) Layoff or termination;
- (vii) Rates of pay or other forms of compensation; and
- (viii) Selection for training, including apprenticeship.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended.

(c) Listing openings. (1) The Contractor agrees to list all suitable employment openings existing at contract award or occurring during contract performance, at an appropriate office of the State employment service system in the locality where the opening occurs. These openings include those occurring at any Contractor facility, including one not connected with performing this contract. An independent corporate affiliate is exempt from this requirement.

(2) State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their suitable openings with the appropriate office of the State employment service.

(3) The listing of suitable employment openings with the State employment service system is required at least concurrently with using any other recruitment source or effort and involves the obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(4) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State employment service system, in each State where it has establishments, of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State system, it need not advise the State system of subsequent contracts. The Contractor may advise the State system when it is no longer bound by this contract clause.

(5) Under the most compelling circumstances, an employment opening may not be suitable for listing, including situations when (i) the Government's needs cannot reasonably be supplied, (ii) listing would be contrary to national security, or (iii) the requirement of listing would not be in the Government's interest.

(d) Applicability. (1) This clause does not apply to the listing of employment openings which occur and are filled outside the 50 States, the District of Columbia, Puerto Rico, Guam, Virgin Islands, American Samoa, and the Trust Territory of the Pacific Islands.

(2) The terms of paragraph (c) above of this clause do not apply to openings that the Contractor proposes to fill from within its own organization or under a customary and traditional employer-union hiring

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arrangement. This exclusion does not apply to a particular opening once an employer decides to consider applicants outside of its own organization or employer-union arrangement for that opening.

(e) Postings. (1) The Contractor agrees to post employment notices stating (i) the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified special disabled veterans and veterans of the Vietnam era, and (ii) the rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. They shall be in a form prescribed by the Director, Office of Federal Contract Compliance Programs, Department of Labor (Director), and provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of the Act, and is committed to take affirmative action to employ, and advance in employment, qualified special disabled and Vietnam Era veterans.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(g) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Director to enforce the terms, including action for noncompliance.

(End of clause)
(R 7-103.27 1976 JUL)
(R FPR Temp. Reg. 39)

35 52.222-36 AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS (APR 1984)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental handicap. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as--

- (i) Employment;
- (ii) Upgrading;
- (iii) Demotion or transfer;
- (iv) Recruitment;
- (v) Advertising;
- (vi) Layoff or termination;
- (vii) Rates of pay or other forms of compensation; and
- (viii) Selection for training, including apprenticeship.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating (i) the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped individuals and (ii) the rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. They shall be in a form prescribed by the Director, Office of Federal Contract Compliance Programs, Department of Labor (Director), and provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified physically and mentally handicapped individuals.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the

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rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of \$2,500 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Director to enforce the terms, including action for noncompliance.

(End of clause)
(R 7-103.28 1976 MAY)
(R FPR Temp. Reg. 38)

36 52.222-37 EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS AND VETERANS OF THE
VIETNAM ERA (JAN 1988)

(a) The contractor shall report at least annually, as required by the Secretary of Labor, on:

(1) The number of special disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of special disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than March 31 of each year beginning March 31, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date:

(1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each contractor subject to the reporting requirements at 38 U.S.C. 2012(d) shall invite all special disabled veterans and veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 2012 to identify themselves to the contractor. The invitation shall state that the information is voluntarily provided, that the information will be kept confidential, that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 2012.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

37 52.222-7001 RIGHT OF FIRST REFUSAL OF EMPLOYMENT--CLOSURE OF MILITARY INSTALLATIONS
(APR 1993)

(a) The Contractor shall give Government employees, who have been or will be adversely affected by closure of the military installation where this contract will be performed, the right of first refusal for employment openings under the contract. This right applies to positions for which the employee is qualified, if consistent with post-Government employment conflict of interest standards.

(b) Government personnel seeking preference under this clause shall provide the Contractor with evidence of eligibility from the Government personnel office.

(End of clause)

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38 52.223-2 CLEAN AIR AND WATER (APR 1984)

(a) "Air Act", as used in this clause, means the Clean Air Act (42 U.S.C. 7401, et seq.).

"Clean air standards," as used in this clause, means--

(1) Any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, work practices, or other requirements contained in, issued under, or otherwise adopted under the Air Act or Executive Order 11738;

(2) An applicable implementation plan as described in section 110(d) of the Air Act (42 U.S.C. 7410(d));

(3) An approved implementation procedure or plan under section 111(c) or section 111(d) of the Air Act (42 U.S.C. 7411(c) or (d)); or

(4) An approved implementation procedure under section 112(d) of the Air Act (42 U.S.C. 7412(d)).

"Clean water standards," as used in this clause, means any enforceable limitation, control, condition, prohibition, standard, or other requirement promulgated under the Water Act or contained in a permit issued to a discharger by the EPA or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342), or by local government to ensure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. 1317).

"Compliance," as used in this clause, means compliance with--

(1) Clean air or water standards; or

(2) A schedule or plan ordered or approved by a court of competent jurisdiction, the EPA, or an air or water pollution control agency under the requirements of the Air Act or Water Act and related regulations.

"Facility," as used in this clause, means any building, plant, installation, structure, mine, vessel or other floating craft, location, or site of operations, owned, leased, or supervised by a Contractor or subcontractor, used in the performance of a contract or subcontract. When a location or site of operations includes more than one building, plant, installation, or structure, the entire location or site shall be deemed a facility except when the Administrator, or a designee, of the EPA determines that independent facilities are collocated in one geographical area.

"Water Act," as used in this clause, means Clean Water Act (33 U.S.C. 1251, et seq.).

(b) The Contractor agrees--

(1) To comply with all the requirements of section 114 of the Clean Air Act (42 U.S.C. 7414) and section 308 of the Clean Water Act (33 U.S.C. 1318) relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in section 114 and section 308 of the Air Act and the Water Act, and all regulations and guidelines issued to implement those acts before the award of this contract;

(2) That no portion of the work required by this prime contract will be performed in a facility listed on the EPA List of Violating Facilities on the date when this contract was awarded unless and until the EPA eliminates the name of the facility from the listing;

(3) To use best efforts to comply with clean air standards and clean water standards at the facility in which the contract is being performed; and

(4) To insert the substance of this clause into any nonexempt subcontract, including this subparagraph (b)(4).

(End of clause)

(R 7-103.29 1975 OCT)

(R 1-1.2302)

39 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997)

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The Offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item

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Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material
(If none, insert None)

Identification No.

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful Offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful Offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful Offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or data acquired from other sources.

(End of clause)

40 52.223-6 DRUG-FREE WORKPLACE (JAN 1997)

(a) Definitions. As used in this clause--

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract at which employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the

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performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall--within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration--

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will--

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction.

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency, and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) through (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

(End of clause)

41 52.223-14 TOXIC CHEMICAL RELEASE REPORTING (OCT 1996)

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42

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U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor owned or operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

(2) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(4) The facility does not fall within Standard Industrial Classification Code (SIC) designations 20 through 39 as set forth in Section 19.102 of the Federal Acquisition Regulation (FAR); or

(5) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed \$100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding \$100,000 (including all options), the substance of this clause, except this paragraph (e).

(End of clause)

42 52.223-7001 HAZARD WARNING LABELS (DEC 1991)

(a) "Hazardous material," as used in this clause, is defined in the Hazardous Material Identification and Material Safety Data clause of this contract.

(b) The Contractor shall label the item package (unit container) of any hazardous material to be delivered under this contract in accordance with the Hazard Communication Standard (29 CFR 1910.1200 et seq.). The Standard requires that the hazard warning label conform to the requirements of the standard unless the material is otherwise subject to the labelling requirements of one of the following statutes:

(1) Federal Insecticide, Fungicide and Rodenticide Act;

(2) Federal Food, Drug and Cosmetics Act;

(3) Consumer Product Safety Act;

(4) Federal Hazardous Substances Act; or

(5) Federal Alcohol Administration Act.

(c) The Offeror shall list which hazardous material listed in the Hazardous Material Identification and Material Safety Data clause of this contract will be labelled in accordance with one of the Acts in paragraphs (b)(1) through (5) of this clause instead of the Hazard Communication Standard. Any hazardous material not listed will be interpreted to mean

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that a label is required in accordance with the Hazard Communication Standard.

| Material (if none, insert "none.") | Act |
|------------------------------------|-------|
| _____ | _____ |
| _____ | _____ |

(d) The apparently successful Offeror agrees to submit, before award, a copy of the hazard warning label for all hazardous materials not listed in paragraph (c) of this clause. The Offeror shall submit the label with the Material Safety Data Sheet being furnished under the Hazardous Material Identification and Material Safety Data clause of this contract.

(e) The Contractor shall also comply with MIL-STD-129, Marking for Shipment and Storage (including revisions adopted during the term of this contract).

(End of clause)

43 52.223-7006 PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS MATERIALS (APR 1993)

(a) Definitions. As used in this clause--

(1) "Storage" means a non-transitory, semi-permanent or permanent holding, placement, or leaving of material. It does not include a temporary accumulation of a limited quantity of a material used in or a waste generated or resulting from authorized activities, such as servicing, maintenance, or repair of Department of Defense (DoD) items, equipment, or facilities.

(2) "Toxic or hazardous materials" means:

(i) Materials referred to in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601(14)) and materials designated under section 102 of CERCLA (42 U.S.C. 9602)(40 CFR Part 302);

(ii) Materials that are of an explosive, flammable, or pyrotechnic nature; or

(iii) Materials otherwise identified by the Secretary of Defense as specified in DoD regulations.

(b) In accordance with 10 U.S.C. 2692, the Contractor is prohibited from storing or disposing of non-DoD-owned toxic or hazardous materials on a DoD installation, except to the extent authorized by a statutory exception to 10 U.S.C. 2692 or as authorized by the Secretary of Defense or his designee.

(End of clause)

44 52.225-5 BUY AMERICAN ACT--CONSTRUCTION MATERIALS (JUN 1997)

(a) The Buy American Act (41 U.S.C. 10) provides that the Government give preference to domestic construction material.

"Components," means those articles, materials, and supplies incorporated directly into construction materials.

"Construction materials," means an article, material, or supply brought to the construction site for incorporation into the building or work. Construction material also includes an item brought to the site pre-assembled from articles, materials or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, which are discrete systems incorporated into a public building or work and which are produced as a complete system, shall be evaluated as a single and distinct construction material regardless of when or how the individual parts or components of such systems are delivered to the construction site.

"Domestic construction material," means (1) an unmanufactured construction material mined or produced in the United States, or (2) a construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of

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the same class or kind as the construction materials determined to be unavailable pursuant to subparagraph 25.202(a)(2) of the Federal Acquisition Regulation (FAR) shall be treated as domestic.

(b)(1) The Buy American Act (41 U.S.C. 10a-10d) requires that only domestic construction material be used in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the excepted construction material or components listed by the Government as follows:

%%Insert list of applicable accepted materials or indicate "none"
none

(3) Other foreign construction material may be added to the list in paragraph (b)(2) of this clause if the Government determines that--

(i) The cost would be unreasonable (the cost of a particular domestic construction material shall be determined to be unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent, unless the agency head determines a higher percentage to be appropriate);

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(4) The Contractor agrees that only domestic construction material will be used by the Contractor, subcontractors, material men, and suppliers in the performance of this contract, except for foreign construction materials, if any, listed in paragraph (b)(2) of this clause.

(c) Request for determination. (1) Contractors requesting to use foreign construction material under paragraph (b)(3) of this clause shall provide adequate information for Government evaluation of the request for a determination regarding the inapplicability of the Buy American Act. Each submission shall include a description of the foreign and domestic construction materials, including unit of measure, quantity, price, time of delivery or availability, location of the construction project, name and address of the proposed contractor, and a detailed justification of the reason for use of foreign materials cited in accordance with paragraph (b)(3) of this clause. A submission based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause. The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(2) If the Government determines after contract award that an exception to the Buy American Act applies, the contract shall be modified to allow use of the foreign construction material, and adequate consideration shall be negotiated. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration shall not be less than the differential established in paragraph (b)(3)(i) of this clause.

(3) If the Government does not determine that an exception to the Buy American Act applies, the use of that particular foreign construction material will be a failure to comply with the Act.

(d) For evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the following information and any applicable supporting data based on the survey of suppliers shall be included in the request:

Foreign and Domestic Construction Materials Price Comparison

| Construction material description | Unit of measure | Quantity | Price (dollars) + |
|-------------------------------------|-----------------|----------|-------------------|
| Item 1: | | | |
| Foreign construction material..... | | | |
| Domestic construction material..... | | | |
| Item 2: | | | |
| Foreign construction material..... | | | |
| Domestic construction material..... | | | |

List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary. Include other

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applicable supporting information.

+ Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).
(End of clause)

45 52.225-11 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (OCT 1996)

(a) Unless advance written approval of the Contracting Officer is obtained, the Contractor shall not acquire, for use in the performance of this contract, any supplies or services originating from sources within, or that were located in or transported from or through, countries whose products are banned from importation into the United States under regulations of the Office of Foreign Assets Control, Department of the Treasury. Those countries include Cuba, Iran, Iraq, Libya, and North Korea.

(b) The Contractor shall not acquire for use in the performance of this contract any supplies or services from entities controlled by the Government of Iraq.

(c) The Contractor agrees to insert the provisions of this clause, including this paragraph (c), in all subcontracts hereunder.
(End of clause)

46 52.225-7016 RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS (JUN 1997)

(a) Definitions.

As used in this clause--

(1) "Bearing components" means the bearing element, retainer, inner race, or outer race.

(2) "Miniature and instrument ball bearings" means all rolling contact ball bearings with a basic outside diameter (exclusive of flange diameters) of 30 millimeters or less, regardless of material, tolerance, performance, or quality characteristics.

(b) The Contractor agrees that, except as provided in paragraph (c) of this clause, all ball and roller bearings and ball and roller bearing components (including miniature and instrument ball bearings) delivered under this contract, either as end items or components of end items, shall be wholly manufactured in the United States or Canada. Unless otherwise specified, raw materials, such as performed bar, tube, or rod stock and lubricants, need not be mined or produced in the United States or Canada.

(c)(1) The restriction in paragraph (b) of this clause does not apply to the extent that--

(i) The end items or components containing ball or roller bearings are commercial items; or

(ii) The ball or roller bearings are commercial items manufactured in a qualifying country listed in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.

(2) The commercial item exception in paragraph (c)(1) of this clause does not include items designed or developed under a Government contract or contracts where the end item is bearings and bearing components.

(d) The restriction in paragraph (b) of this clause may be waived upon request from the Contractor in accordance with subsection 225.7019-3 of the Defense Federal Acquisition Regulation Supplement. If the restriction is waived for miniature and instrument ball bearings, the Contractor agrees to acquire a like quantity and type of domestic manufacture for nongovernmental use.

(e) The Contractor agrees to retain records showing compliance with this restriction until 3 years after final payment and to make records available upon request of the Contracting Office.

(f) The Contractor agrees to insert this clause, including this paragraph (f), in every subcontract and purchase order issued in performance of this contract, unless items acquired are--

(1) Commercial items other than ball or roller bearings; or

(2) Items that do not contain ball or roller bearings.

(End of clause)

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47 52.225-7025 RESTRICTION ON ACQUISITION OF FORGINGS (JUNE 1997)

(a) Definitions. As used in this clause--

(1) "Domestic manufacture" means manufactured in the United States or Canada if the Canadian firm--

(i) Normally produces similar items or is currently producing the item in support of DoD contracts (as prime or subcontractor); and

(ii) Agrees to become (upon receiving a contract/order) a planned producer under DoD's Industrial Preparedness Production Planning Program, if it is not already a planned producer for the item.

(2) "Forging items" means--

| Items | Categories |
|------------------------------|---|
| Ship propulsion shafts | Excludes service and landing craft shafts |
| Periscope tubes | All |
| Ring forgings for bull gears | All greater than 120 inches in diameter |

(b) The Contractor agrees that end items and their components delivered under this contract shall contain forging items that are of domestic manufacture only.

(c) The restriction in paragraph (b) of this clause may be waived upon request from the Contractor in accordance with subsection 225.7102-3 of the Defense Federal Acquisition Regulation Supplement.

(d) The Contractor agrees to retain records showing compliance with this restriction until 3 years after final payment and to make records available upon request of the Contracting Officer.

(e) The Contractor agrees to insert this clause, including this paragraph (e), in subcontracts and purchase orders issued in performance of this contract, when products purchased contain restricted forging items.

(End of clause)

48 52.225-7030 RESTRICTION ON ACQUISITION OF CARBON, ALLOY, AND ARMOR STEEL PLATE (OCT 1992)

The Contractor agrees that all carbon, alloy, and armor steel plate in Federal supply class 9515, or described by American Society for Testing Materials (ASTM) or American Iron and Steel Institute (AISI) specifications, furnished as a deliverable under this contract, or purchased by the contractor as a raw material, for use in a Government-owned facility or a facility under the control of the Department of Defense, shall be melted and rolled in the United States or Canada.

(End of clause)

49 52.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 1992)

(a) Definitions.

As used in this clause--

(1) "Foreign person" means any person other than a United States person as defined in section 16(2) of the Export Administration Act of 1979 (50 U.S.C. App. Sec 2415).

(2) "United States person" is defined in section 16(2) of the Export Administration Act of 1979 and means any United States resident or national (other than an individual resident outside the United States and employed by other than a United States person), any domestic concern (including any permanent domestic establishment of any foreign concern), and any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern which is controlled in fact by such domestic concern, as determined under regulations of the President.

(b) Certification.

By submitting this offer, the Offeror, if a foreign person, company or entity, certifies that it--

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- (1) Does not comply with the Secondary Arab Boycott of Israel; and
 - (2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. Sec 2407(a) prohibits a United States person from taking.
- (End of clause)

50 52.226-1 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES
(SEP 1996)

(a) For Department of Defense contracts, this clause applies only if the contract includes a subcontracting plan incorporated under the terms of the clause at 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan. It does not apply to contracts awarded based on a subcontracting plan submitted and approved under paragraph (g) of the clause at 52.219

(b) Definitions. As used in this clause:

"Indian" means any person who is a member of any Indian tribe, band, group, pueblo or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs (BIA) in accordance with 25 U.S.C. 1452(c) and any "Native" as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601).

"Indian organization" means the governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C., Chapter 17.

"Indian-owned economic enterprise" means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership shall constitute not less than 51 percent of the enterprise.

"Indian tribe" means any Indian tribe, band, group, pueblo or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1542(c).

"Interested party" means a prime contractor or an actual or prospective offeror whose direct economic interest would be affected by the award of a subcontract or by the failure to award a subcontract.

(c) The Contractor agrees to use its best efforts to give Indian organizations and Indian-owned economic enterprises (25 U.S.C. 1544) the maximum practicable opportunity to participate in the subcontracts it awards to the fullest extent consistent with efficient performance of its contract.

(1) The Contracting Officer and the Contractor, acting in good faith, may rely on the self-certification of an Indian organization or Indian-owned economic enterprise as to its eligibility, unless an interested party challenges its status or the Contracting Officer has independent reason to question that status. In the event of a challenge to the self-certification of a subcontractor, the Contracting Officer shall refer the matter to the U.S. Department of the Interior, Bureau of Indian Affairs (BIA), Attn: Chief, Division of Contracting and Grants Administration, 1849 C Street, NW, MS-334A-SIB, Washington, DC 20245. The BIA will determine the eligibility and notify the Contracting Officer. The 5 percent incentive payment will not be made within 50 working days of subcontract award or while a challenge is pending. If a subcontractor is determined to be an ineligible participant, no incentive payment will be made under the Indian Incentive Program.

(2) The Contractor may request an adjustment under the Indian Incentive Program to the following:

- (i) The estimated cost of a cost-type contract.
- (ii) The target cost of a cost-plus-incentive-fee prime contract.
- (iii) The target cost and ceiling price of a fixed-price incentive prime contract.
- (iv) The price of a firm-fixed-price prime contract.

(3) The amount of the equitable adjustment to the prime contract shall be 5 percent of the estimated cost, target cost or firm-fixed-price included in the subcontract initially awarded to the Indian organization

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or Indian-owned economic enterprise.

(4) The Contractor has the burden of proving the amount claimed and must assert its request for an adjustment prior to completion of contract performance.

(d) The Contracting Officer, subject to the terms and conditions of the contract and the availability of funds, shall authorize an incentive payment of 5 percent of the amount paid to the subcontractor. Contracting Officers shall seek funding in accordance with agency procedures. The Contracting Officer's decision is final and not subject to the Disputes clause of this contract.

(End of clause)

51 52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold); however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.

(End of clause)

52 52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
(AUG 1996)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) The Contractor agrees to include, and require inclusion of, this clause in all subcontracts at any tier for supplies or services (including construction and architect-engineer subcontracts and those for material, supplies, models, samples, or design or testing services) expected to exceed the simplified acquisition threshold at FAR 2.101.

(End of clause)

53 52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)

Except as otherwise provided, the Contractor agrees to indemnify the

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Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of performing this contract or out of the use or disposal by or for the account of the Government of supplies furnished or work performed under this contract.

(End of clause)
(R 7-602.16 1964 JUN)

54 52.227-23 RIGHTS TO PROPOSAL DATA (TECHNICAL) (JUN 1987)

Except for data contained on pages _____, it is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data--General" clause contained in this contract) in and to the technical data contained in the proposal dated _____, upon which this contract is based.

(End of clause)

55 52.227-7000 NON-ESTOPPEL (OCT 1966)

The Government reserves the right at any time to contest the enforceability, validity, scope of, or the title to any patent or patent application herein licensed without waiving or forfeiting any right under this contract.

(End of clause)

56 52.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

(End of clause)

57 52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)

The Contractor shall promptly furnish additional security required to protect the Government and persons supplying labor or materials under this contract if--

(a) Any surety upon any bond, or issuing financial institution for other security, furnished with this contract becomes unacceptable to the Government;

(b) Any surety fails to furnish reports on its financial condition as required by the Government;

(c) The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer; or

(d) An irrevocable letter of credit (ILC) used as security will expire before the end of the period of required security. If the Contractor does not furnish an acceptable extension or replacement ILC, or other acceptable substitute, at least 30 days before an ILC's scheduled expiration, the Contracting officer has the right to immediately draw on the ILC.

(End of clause)

58 52.228-5 INSURANCE--WORK ON A GOVERNMENT INSTALLATION (JAN 1997)

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance of this contract, at least the kinds and

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minimum amounts of insurance required in the Schedule or elsewhere in the contract.

(b) Before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

(End of clause)

59 52.228-11 PLEDGES OF ASSETS (FEB 1992)

(a) Offerors shall obtain from each person acting as an individual surety on a bid guarantee, a performance bond, or a payment bond--

(1) Pledge of assets; and

(2) Standard Form 28, Affidavit of Individual Surety.

(b) Pledges of assets from each person acting as an individual surety shall be in the form of--

(1) Evidence of an escrow account containing cash, certificates of deposit, commercial or Government securities, or other assets described in FAR 28.203-2 (except see 28.203-2(b)(2) with respect to Government securities held in book entry form) and/or;

(2) A recorded lien on real estate. The offeror will be required to provide--

(i) Evidence of title in the form of a certificate of title prepared by a title insurance company approved by the United States Department of Justice. This title evidence must show fee simple title vested in the surety along with any concurrent owners; whether any real estate taxes are due and payable; and any recorded encumbrances against the property, including the lien filed in favor of the Government as required by FAR 28.203-3(d);

(ii) Evidence of the amount due under any encumbrance shown in the evidence of title;

(iii) A copy of the current real estate tax assessment of the property or a current appraisal dated no earlier than 6 months prior to the date of the bond, prepared by a professional appraiser who certifies that the appraisal has been conducted in accordance with the generally accepted appraisal standards as reflected in the Uniform Standards of Professional Appraisal Practice, as promulgated by the Appraisal Foundation.

(End of clause)

60 52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS (OCT 1995)

In accordance with Section 806(a)(3) of Pub. L. 102-190, as amended by Sections 2091 and 8105 of Pub. L. 103-355, upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

(End of clause)

61 52.229-3 FEDERAL, STATE, AND LOCAL TAXES (JAN 1991)

(a) "Contract date," as used in this clause, means the date set for bid opening or, if this is a negotiated contract or a modification, the

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effective date of this contract or modification.

"All applicable Federal, State, and local taxes and duties," as used in this clause, means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed Federal tax," as used in this clause, means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.

"After-relieved Federal tax," as used in this clause, means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds \$250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

62 52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (MAY 1997)

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested.

(ii) A listing of the amount included for work performed by each subcontractor under the contract.

(iii) A listing of the total amount of each subcontract under the contract.

(iv) A listing of the amounts previously paid to each such subcontractor under the contract.

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may

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authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

- (i) Consideration is specifically authorized by this contract; and
- (ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

- (1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
- (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of chapter 39 of Title 31, United States Code;
- (3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and
- (4) This certification is not to be construed as final acceptance of a subcontractor's performance.

(Name)

(Title)

(Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the "unearned amount"), the Contractor shall--

- (1) Notify the Contracting Officer of such performance deficiency; and
- (2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until--
 - (i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or
 - (ii) The date the Contractor reduces the amount of any subsequent certified request for progress payments by an amount equal to the unearned amount.

(e) Retainage. If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

- (1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or
- (2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

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(g) Reimbursement for bond premiums. In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes.

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903(c)(1), the amount payable under subparagraph (d)(2) of this clause shall be--

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date the Contractor receives the unearned amount; and

(2) Deducted from the next available payment to the Contractor.

(End of clause)

63 52.232-17 INTEREST (JUN 1996)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid.

(b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.

(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

(End of clause)

64 52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

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(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

(End of clause)

65 52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (JUN 1997)

Notwithstanding any other payment terms in this contract, the Government will make invoice payments and contract financing payments under the terms and conditions specified in this clause. Payment shall be considered as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in section 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see subparagraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--

(1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project:

(A) The due date for making such payments shall be 14 days after receipt of the payment request by the designated billing office. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date shall be the 14th day after the date of the Contractor's payment request, provided a proper payment request is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, shall be as specified in the contract or, if not specified, 30 days after approval for release to the Contractor by the Contracting Officer.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract):

(A) The due date for making such payments shall be either the 30th day after receipt by the designated billing office of a proper invoice from the Contractor, or the 30th day after Government acceptance of the work or services completed by the Contractor, whichever is later. If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date shall be the 30th day after the date of the Contractor's invoice, provided a proper invoice is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) On a final invoice where the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance shall

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be deemed to have occurred on the effective date of the contract settlement.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(2)(i) through (a)(2)(ix) of this clause. If the invoice does not comply with these requirements, it shall be returned within 7 days after the date the designated billing office received the invoice, with a statement of the reasons why it is not a proper invoice. Untimely notification will be taken into account in computing any interest penalty owed the Contractor in the manner described in subparagraph (a)(4) of this clause.

(i) Name and address of the Contractor.

(ii) Invoice date. (The Contractor is encouraged to date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and contract line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., prompt payment discount terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to be notified in the event of a defective invoice.

(viii) For payments described in paragraph (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Any other information or documentation required by the contract.

(x) While not required, the Contractor is strongly encouraged to assign an identification number to each invoice.

(3) Interest penalty. An interest penalty shall be paid automatically by the designated payment office, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day without incurring a late payment interest penalty.

(i) A proper invoice was received by the designated billing office.

(ii) A receiving report or other Government documentation authorizing payment was processed and there was no disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The interest penalty shall be at the rate established by the Secretary of the Treasury under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) that is in effect on the day after the due date, except where the interest penalty is prescribed by other governmental authority (e.g., tariffs). This rate is referred to as the "Renegotiation Board Interest Rate," and it is published in the Federal Register semiannually on or about January 1 and July 1. The interest penalty shall accrue daily on the invoice principal payment amount approved by the Government until the payment date of such approved principal amount; and will be compounded in 30-day increments inclusive from the first day after the due date through the payment date. That is, interest accrued at the end of any 30-day period will be added to the approved invoice principal payment amount and will be subject to interest penalties if not paid in the succeeding 30-day period. If the designated billing office failed to notify the Contractor of a defective invoice within the periods prescribed in subparagraph (a)(2) of this clause, the due date on the corrected invoice will be adjusted by subtracting from such date the number of days taken beyond the prescribed notification of defects period. Any interest penalty owed the Contractor will be based on this adjusted due date. Adjustments will be made by the designated payment office for errors in calculating interest penalties.

(i) For the sole purpose of computing an interest penalty that might

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be due the Contractor for payments described in paragraph (a)(1)(ii) of this clause, Government acceptance or approval shall be deemed to have occurred constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. In the event that actual acceptance or approval occurs within the constructive acceptance or approval period, the determination of an interest penalty shall be based on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The following periods of time will not be included in the determination of an interest penalty:

(A) The period taken to notify the Contractor of defects in invoices submitted to the Government, but this may not exceed 7 days.

(B) The period between the defects notice and resubmission of the corrected invoice by the Contractor.

(C) For incorrect electronic funds transfer (EFT) information, in accordance with the EFT clause of this contract.

(iii) Interest penalties will not continue to accrue after the filing of a claim for such penalties under the clause at 52.233-1, Disputes, or for more than 1 year. Interest penalties of less than \$1 need not be paid.

(iv) Interest penalties are not required on payment delays due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. Claims involving disputes, and any interest that may be payable, will be resolved in accordance with the clause at 52.233-1, Disputes.

(5) Prompt payment discounts. An interest penalty also shall be paid automatically by the designated payment office, without request from the Contractor, if a discount for prompt payment is taken improperly. The interest penalty will be calculated on the amount of discount taken for the period beginning with the first day after the end of the discount period through the date when the Contractor is paid.

(6) Additional interest penalty.

(i) A penalty amount, calculated in accordance with subdivision

(a)(6)(iii) of this clause, shall be paid in addition to the interest penalty amount if the Contractor--

(A) Is owed an interest penalty of \$1 or more;

(B) Is not paid the interest penalty within 10 days after the date the invoice amount is paid; and

(C) Makes a written demand to the designated payment office for additional penalty payment, in accordance with subdivision (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) Contractors shall support written demands for additional penalty payments with the following data. No additional data shall be required. Contractors shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) Demands must be postmarked on or before the 40th day after payment was made, except that--

(1) If the postmark is illegible or nonexistent, the demand must have been received and annotated with the date of receipt by the designated payment office on or before the 40th day after payment was made; or

(2) If the postmark is illegible or nonexistent and the designated payment office fails to make the required annotation, the demand's validity will be determined by the date the Contractor

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has placed on the demand; provided such date is no later than the 40th day after payment was made.

(iii)(A) The additional penalty shall be equal to 100 percent of any original late payment interest penalty, except--

(1) The additional penalty shall not exceed \$5,000;

(2) The additional penalty shall never be less than \$25; and

(3) No additional penalty is owed if the amount of the underlying interest penalty is less than \$1.

(B) If the interest penalty ceases to accrue in accordance with the limits stated in subdivision (a)(4)(iii) of this clause, the amount of the additional penalty shall be calculated on the amount of interest penalty that would have accrued in the absence of these limits, subject to the overall limits on the additional penalty specified in subdivision (a)(6)(iii)(A) of this clause.

(C) For determining the maximum and minimum additional penalties, the test shall be the interest penalty due on each separate payment made for each separate contract. The maximum and minimum additional penalty shall not be based upon individual invoices unless the invoices are paid separately. Where payments are consolidated for disbursing purposes, the maximum and minimum additional penalty determination shall be made separately for each contract therein.

(D) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payments--

(1) Due dates for recurring financing payments. If this contract provides for contract financing, requests for payment shall be submitted to the designated billing office as specified in this contract or as directed by the Contracting Officer. Contract financing payments shall be made on the 30th day after receipt of a proper contract financing request by the designated billing office. In the event that an audit or other review of a specific financing request is required to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the due date specified.

(2) Due dates for other contract financing. For advance payments, loans, or other arrangements that do not involve recurring submissions of contract financing requests, payment shall be made in accordance with the corresponding contract terms or as directed by the Contracting Officer.

(3) Interest penalty not applicable. Contract financing payments shall not be assessed an interest penalty for payment delays.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to include a payment clause and an interest penalty clause conforming to the standards set forth in subparagraphs (c)(1) and (c)(2) of this clause in each of its subcontracts, and to require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

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(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) A copy of any notice issued by a Contractor pursuant to subdivision (d)(3)(i) of this clause has been furnished to the Contracting Officer.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to subparagraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under subparagraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under paragraph (e)(5)(i) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under subparagraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under subdivision (e)(5)(i) of this clause.

(f) Third-party deficiency reports--

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(1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a "second-tier subcontractor") a written notice in accordance with section 2 of the Act of August 24, 1935 (40 U.S.C. 270b, Miller Act), asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under subparagraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under paragraph (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. A written notice of any withholding shall be issued to a subcontractor (with a copy to the Contracting Officer of any such notice issued by the Contractor), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the United States is a party. The United States may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the United States for such interest penalty. A cost-reimbursement claim may not include any amount for reimbursement of such interest penalty.

(End of clause)

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(a) 10 U.S.C. 2307(e) permits the head of the agency to reduce or suspend further payments to the Contractor upon a written determination by the agency head that substantial evidence exists that the Contractor's request for advance, partial, or progress payments is based on fraud. The provisions of 10 U.S.C. 2307(e) are in addition to any other rights or remedies provided the Government by law or under contract.

(b) Actions taken by the Government in accordance with 10 U.S.C. 2307(e) shall not constitute an excusable delay under the Default clause of this contract or otherwise relieve the Contractor of its obligations to perform under this contract.

(End of clause)

67 52.233-1 DISPUTES (OCT 1995)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding \$100,000 is not a claim under the Act until certified as required by subparagraph (d)(2) of this clause. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) Contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim--

(A) Exceeding \$100,000; or

(B) Regardless of the amount claimed, when using--

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows:

"I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of \$100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over \$100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use ADR. If the Contractor

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refuses an offer for alternative disputes resolution, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request. When using arbitration conducted pursuant to 5 U.S.C. 575-580, or when using any other ADR technique that the agency elects to handle in accordance with the ADRA, any claim, regardless of amount, shall be accompanied by the certification described in subparagraph (d)(2)(iii) of this clause, and executed in accordance with subparagraph (d)(3) of this clause.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date that the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

68 52.233-3 PROTEST AFTER AWARD (AUG 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor

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to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

(End of clause)

69 52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty-five (25)% percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

(End of clause)

(R 7-603.15 1965 JAN)

(R 1-18.104)

70 52.236-2 DIFFERING SITE CONDITIONS (APR 1984)

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

(End of clause)

71 52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing

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the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

(End of clause)

72 52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

(End of clause)

(R 7-602.9 1964 JUN)

73 52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(End of clause)

74 52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

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75 52.236-8 OTHER CONTRACTS (APR 1984)

The Government may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

(End of clause)

76 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site, and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(End of clause)

77 52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)

(a) The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

(b) Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

(End of clause)

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78 52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)

(a) The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Government intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Government has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Government's possession or use, notwithstanding the terms of the clause in this contract entitled "Permits and Responsibilities." If prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

(End of clause)

79 52.236-12 CLEANING UP (APR 1984)

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

(End of clause)

80 52.236-13 ACCIDENT PREVENTION (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will (1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities; (2) avoid interruptions of Government operations and delays in project completion dates; and (3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall--

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

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(e) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

(End of clause)

81 52.236-17 LAYOUT OF WORK (APR 1984)

The Contractor shall lay out its work from Government-established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

(End of clause)

(R 7-604.3 1965 JAN)

82 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will

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indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(End of clause)

83 52.236-7000 MODIFICATION PROPOSALS--PRICE BREAKDOWN (DEC 1991)

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown--

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for--

- (i) Material;
- (ii) Labor;
- (iii) Equipment;
- (iv) Subcontracts; and
- (v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

(c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.

(d) The Contractor's proposal shall include a justification for any time extension proposed.

(End of clause)

84 52.242-13 BANKRUPTCY (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

(End of clause)

85 52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an

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unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract.

(c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

(End of clause)

86 52.242-7000 POSTAWARD CONFERENCE (DEC 1991)

The Contractor agrees to attend any postaward conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation Subpart 42.5.

(End of clause)

87 52.243-4 CHANGES (AUG 1987)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) In the Government-furnished facilities, equipment, materials, services, or site; or

(4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances, and source of the order and (2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the

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proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(End of clause)

88 52.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR Part 31 and DFARS Part 231, in effect on the date of this contract, apply.

(End of clause)

89 52.244-4001 SUBCONTRACTS (FIXED-PRICE CONTRACTS) (FEB 1995) (52.0244-4001)

(a) This clause does not apply to firm-fixed-price contracts and fixed-price contracts with economic price adjustment. However, it does apply to subcontracts resulting from unpriced modifications to such contracts.

(b) "Subcontract," as used in this clause, includes but is not limited to purchase orders, and changes and modifications to purchase orders. The Contractor shall notify the Contracting Officer reasonably in advance of entering into any subcontract if the Contractor does not have an approved purchasing system and if the subcontract--

(1) Is proposed to exceed \$100,000; or

(2) Is one of a number of subcontracts with a single subcontractor, under this contract, for the same or related supplies or services, that in the aggregate are expected to exceed \$100,000.

(c) The advance notification required by paragraph (b) above shall include--

(1) A description of the supplies or services to be subcontracted;

(2) Identification of the type of subcontract to be used;

(3) Identification of the proposed subcontractor and an explanation of why and how the proposed subcontractor was selected, including the competition obtained;

(4) The proposed subcontract price and the Contractor's cost or price analysis;

(5) The subcontractor's current, complete, and accurate cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions;

(6) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract; and

(7) A negotiation memorandum reflecting--

(i) The principal elements of the subcontract price negotiations;

(ii) The most significant considerations controlling establishment of initial or revised prices;

(iii) The reason cost or pricing data were or were not required;

(iv) The extent, if any, to which the Contractor did not rely on the subcontractor's cost or pricing data in determining the price objective and in negotiating the final price;

(v) The extent, if any, to which it was recognized in the negotiation that the subcontractor's cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and subcontractor; and the effect of any such defective data on the total price negotiated;

(vi) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(vii) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(d) The Contractor shall obtain the Contracting Officer's written consent before placing any subcontract for which advance notification is required under paragraph (b) above. However, the Contracting Officer may ratify in writing any such subcontract. Ratification shall constitute the

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consent of the Contracting Officer.

(e) Even if the Contractor's purchasing system has been approved, the Contractor shall obtain the Contracting Officer's written consent before placing subcontracts that have been selected for special surveillance and so identified in the Schedule of this contract.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination (1) of the acceptability of any subcontract terms or conditions, (2) of the acceptability of any subcontract price or of any amount paid under any subcontract, or (3) to relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement subcontracts shall not exceed the fee limitations in subsection 15.903(d) of the Federal Acquisition Regulation (FAR).

(h) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

(End of clause)

90 52.245-1 PROPERTY RECORDS (APR 1984)

The Government shall maintain the Government's official property records in connection with Government property under this contract. The Government Property clause is hereby modified by deleting the requirement for the Contractor to maintain such records.

(End of clause)

(AV 7-104.24(g) 1967 AUG)

91 52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)

(a) Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not--

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) below.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an

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appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

(End of clause)

#2 92 DELETED BY AMENDMENT 0002

93 52.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (NOV 1995)

(a) Definitions. As used in this clause--

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense (DoD)" means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract. However, effective May 1, 1996, the term does not include a supplier, materialman, distributor, or vendor of commercial items or commercial components.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) Supplies includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b) The Contractor shall employ U.S.-flag vessels in the transportation by sea of any supplies to be furnished in the performance of this contract. The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that--

(1) U.S.-flag vessels are not available for timely shipment;

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(2) The freight charges are inordinately excessive or unreasonable; or
(3) Freight charges are higher than charges to private persons for transportation of like goods.

(c) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract.

Requests shall contain at a minimum--

- (1) Type, weight, and cube of cargo;
- (2) Required shipping date;
- (3) Special handling and discharge requirements;
- (4) Loading and discharge points;
- (5) Name of shipper and consignee;
- (6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(d) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information--

- (1) Prime contract number;
- (2) Name of vessel;
- (3) Vessel flag of registry;
- (4) Date of loading;
- (5) Port of loading;
- (6) Port of final discharge;
- (7) Description of commodity;
- (8) Gross weight in pounds and cubic feet if available;
- (9) Total ocean freight in U.S. dollars; and
- (10) Name of the steamship company.

(e) The Contractor agrees to provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

- (1) No ocean transportation was used in the performance of this contract;
- (2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;
- (3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or
- (4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

| | Item Description | Contract Line Items | Quantity |
|------------|---------------------|------------------------|----------|
| Total..... | | | |

(f) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(g) The Contractor shall include this clause, including this paragraph (g) in all subcontracts under this contract, which exceed the simplified acquisition threshold in Part 13 of the Federal Acquisition Regulation.

(End of clause)

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94 52.247-7024 NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA (NOV 1995)

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor--

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause, including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties, in all subcontracts hereunder, except (effective May 1, 1996) subcontracts for the acquisition of commercial items or components.

(End of clause)

95 52.248-3 VALUE ENGINEERING--CONSTRUCTION (MAR 1989)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VECP. The cost

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reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action. (1) The Contracting Officer shall notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer shall notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VECP shall be final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).

(f) Sharing. (1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by (i) 45 percent for fixed-price contracts or (ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

- (i) Accept the VECP;
- (ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and
- (iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) Collateral savings. If a VECP is accepted, the instant contract amount shall be increased by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed (1) the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or (2) \$100,000, whichever is greater. The Contracting Officer shall be the sole determiner of the amount of collateral savings, and that amount shall not be subject to the Disputes clause or otherwise subject to litigation under 41 U.S.C. 601-613.

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of \$50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor

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may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering--Construction clause of contract _____, shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations."

If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

96 52.249-2 I TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SEP 1996)--
ALTERNATE I (SEP 1996)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii)

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may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1 year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (f) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and Contracting Officer fail to agree on the whole amount to be paid the Contractor because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined as follows, but without duplication of any amounts agreed upon under paragraph (f) of this clause:

(1) For contract work performed before the effective date of termination, the total (without duplication of any items) of--

(i) The cost of this work;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(1)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(1)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(2) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the

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amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

97 52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any

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separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if-

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (i) acts of God or of the public enemy, (ii) acts of the Government in either its sovereign or contractual capacity, (iii) acts of another Contractor in the performance of a contract with the Government, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

(d) The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

98 52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any _____ (48 CFR _____) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

(NM)

99 52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number

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and edition date.

(c) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

(End of clause)

100 52.0-4049 PRINCIPAL CONTRACTING OFFICER (52.0000-4049)

The Contracting Officer who signs this contract will be the Principal Contracting Officer for this contract. However, any Contracting Officer assigned to the Fort Worth District, contracting within his or her authority, may take formal action on this contract when a contract action needs to be taken and the Principal Contracting Officer is unavailable.

END OF SECTION 00700

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SECTION 00800

SPECIAL CONTRACT REQUIREMENTS

1 52.0-4000 ITB NOTICE OF AVAILABILITY OF SOLICITATION PROVISIONS (52.0000-4000 ITB)

Text of the referenced clauses can be found in the Federal Acquisition Regulations, Part 52, "Solicitation Provisions and Contract Clauses." The Federal Acquisition regulations are available (1) in the larger public libraries, (2) on the Internet (WEB site address "http://www.gsa.gov/far" or (3) may be purchased from the Superintendent of Documents, Congressional Sales Office, Government Printing Office, Washington, DC 20402. Upon award of a contract the complete text of the referenced clauses will be furnished to the Contractor.

(End of Provision)

2 52.1-4038 196 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (OCT 1989) (ER 415-1-15)

(52.0001-4038 1/96)

a. This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled "DEFAULT (FIXED PRICE CONSTRUCTION)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER CALENDAR DAYS

WORK DAYS BASED ON (5) DAY WORK WEEK

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 7 | 6 | 5 | 5 | 6 | 4 | 3 | 4 | 5 | 5 | 4 | 6 |

c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month). be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph "b" above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled "DEFAULT (FIXED PRICE CONSTRUCTION)." (END)

3 52.1-4042 196 ASBESTOS ABATEMENT INSURANCE - (52.0001-4042 196) (JAN 1991)

(CESWF-CT-CA)

a. If any asbestos abatement/removal or any other work with asbestos

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is required under this contract and Comprehensive General Liability Insurance is required, the policy of insurance which covers the asbestos abatement/removal or other work with asbestos shall be a "per occurrence" policy as that term used in the insurance industry. A policy issued on a "claims made" basis or any other "short tail" basis will not be accepted.

b. The Comprehensive General Liability per occurrence policy shall be obtained by the prime Contractor if the asbestos abatement work is performed by the prime Contractor's own work force, or by an asbestos abatement subcontractor, if the asbestos abatement work is subcontracted. The Contractor shall insert in the subcontract a requirement for the asbestos abatement subcontractor to provide and maintain a copy of the subcontractor's proof of required insurance, and shall make such copy available to the Contracting Officer upon request.

(End of Clause)

4 52.1-4043 196 LEAD-BASED PAINT ABATEMENT INSURANCE (52.0000-4043 196) (SEP 1993)

(CESWF-ED-GH)

a. If any lead-based paint abatement/removal or any other work with lead-based paint is required under this contract and Comprehensive General Liability Insurance is required, the policy of insurance which covers the lead-based paint abatement/removal or other work with lead-based paint shall be a "per occurrence" policy as that term used in the insurance industry. A policy issued on a "claims made" basis or any other "short tail" basis will not be accepted.

b. The Comprehensive General Liability per occurrence policy shall be obtained by the prime Contractor if the lead-based paint abatement work is performed by the prime Contractor's own work force, or by a lead-based paint abatement subcontractor, if the abatement work is subcontracted. If subcontracted, the Contractor shall insert in the subcontract a requirement for the abatement subcontractor to provide and maintain the insurance required by this paragraph. The Contractor shall maintain a copy of the subcontractor's proof of required insurance, and shall make such copy available to the Contracting Officer upon request.

(End of Clause)

5 52.1-4047 196 IDENTIFICATION OF EMPLOYEES (JAN 1965) (FAR 52.236-7007) AND
(AUG 1984) (EC 715-1-83) (52.0001-4047 1/96)

The Contractor shall be responsible for furnishing an identification badge/card to each employee prior to the employees' work-on-site, and for requiring each employee engaged on the work to display such identification. All prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon the release of any employee. (The Contractor shall obtain and submit fingerprints of all persons employed or to be employed on the project. Refer to applicable security clauses for additional specific requirements and procedures for obtaining employee identification.)

6 52.1-4048 196 RESPONSIBILITY OF THE CONTRACTOR (1991 LOCAL)(52.0001-4048 196)

a. The Contractor shall be responsible for the professional quality, technical accuracy and the coordination of all designs, drawings and specifications furnished by the Contractor under this contract. The Contractor shall, without additional compensation, correct or revise designs, drawings and specifications.

b. Neither the Government's review, approval or acceptance of, nor payment for, any of the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause or action arising out of the performance of this contract, and the Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor's negligence in connection with designs, drawings and specifications, furnished under this contract.

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c. The rights and remedies of the Government provided for under the contract are in addition to any other rights and remedies provided by law.

7 52.1-4049 196 LIMITATION OF PAYMENT FOR DESIGN (52.0001-4049 196)

ONE STEP TURNKEY NEGOTIATED CONTRACT PROCUREMENT PROCEDURE MANUAL FOR ARMY FAMILY HOUSING"

If it should be necessary to terminate this contract, for any reason, prior to completion, the Government will pay the Contractor a fair and reasonable price for the design services performed and delivered to the Government. However, such payment will not exceed a sum greater than the amount allowable under 10 USC 4540 regardless of the actual costs the Contractor may be able to substantiate.

8 52.1-4050 196 PROCUREMENT AUTHORITY FOR FEDERAL INFORMATION RESOURCES

Pursuant to the Federal Information Resources Management Regulation (FIRMR), Section 201-39.5202-3, this acquisition is not being conducted under the FIRMR, however any modifications requiring Federal Information Processing (FIP) resources will be conducted under specific agency delegation of GSA's exclusive procurement authority for FIP resources. The specific GSA DPA case number is KAA-95-AD-012.

9 52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (APR 1984)

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum of \$600.00 for each day of delay.

(b) If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

(End of clause)

10 52.211-13 TIME EXTENSIONS (APR 1984)

Notwithstanding any other provisions of this contract, it is mutually understood that the time extensions for changes in the work will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended only for those specific elements so delayed and that the remaining contract completion dates for all other portions of the work will not be altered and may further provide for an equitable readjustment of liquidated damages under the new completion schedule.

(End of clause)

11 52.228-4005 L1 REQUIRED INSURANCE (APR 1984) (52.0228-4005 L1)

As a minimum and pursuant to contract clause entitled "Insurance--Work on a Government Installation", the contractor shall maintain the following insurance.

(a) Workmen's compensation and employers' liability insurance in compliance with applicable state statutes, with a minimum employers' liability coverage of \$100,000.

(b) Comprehensive general liability insurance for bodily injury in the minimum limits of \$500,000 per occurrence. No property damage liability insurance is required.

(c) Comprehensive automobile liability insurance covering the operation of all automobiles used in connection with the performance of

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the contract in the minimum limits of \$200,000 per person and \$500,000 per occurrence for bodily injury and \$20,000 per occurrence for property damage.

12 52.228-4102 Con BONDS (DEC 1991) (52.0228-4102 CON)

(a) Bonds listed below are required when the bid amount exceeds \$25,000. The name and business address of the surety shown on the executed bond forms submitted in response to this solicitation must be the same as the name and business address listed for the surety in Department of Treasury Circular 570. Any bidder/offeror required to furnish a bond has an option to furnish such bond in the form of a firm commitment with good and sufficient surety or sureties acceptable to the Government, such as Standard Form 24 (for Bid Bond); Standard Form 25 (for Performance Bond); Standard Form 25-A (for Payment Bond); postal money order, certified check, cashier's check, bank draft, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States.

(b) Bid Bonds. Each bidder shall submit with his bid a bid guarantee in a form acceptable to the Government and in the required amount as specified below. In accordance with FAR 28.101-1 only separate bid guarantees are acceptable in connection with construction contracts (annual bid bonds are not acceptable). The amount of bid guarantee required is twenty (20) percent of the bid price or Three Million Dollars (\$3,000,000), whichever is lesser. The bid guarantee amount may be expressed in terms of a percentage of the bid price or may be expressed in dollars and cents. When the penal sum is expressed as a percentage, a maximum dollar limitation may be stated.

(c) Performance and Payment Bond. Within ten (10) calendar days after notification of award of the contract, the contractor shall execute and furnish two bonds, each with good and sufficient surety or sureties acceptable to the Government, namely a performance bond and a payment bond. (Standard Form 25, Performance Bond, and Standard Form 25-A, Payment Bond, may be obtained from the solicitation issuing office for execution by the contractor). Any bonds furnished shall be furnished by the Contractor to the Government prior to commencement of contract performance. The penal sums of such bonds will be as follows:

(1) Performance Bond. The penal sum of the performance bond shall equal one hundred percent (100%) of the contract price.

(2) Payment Bonds.

(i) When the contract price is \$1,000,000 or less, the penal sum will be fifty percent (50%) of the contract price.

(ii) When the contract price is in excess of \$1,000,000 but not more than \$5,000,000, the penal sum shall be forty percent (40%) of the contract price.

(iii) When the contract price is more than \$5,000,000, the penal sum shall be \$2,500,000.

FAILURE TO INCLUDE BID BOND OR OTHER BID SECURITY ON TIME MAY BE CAUSE FOR REJECTION OF THE BID AS NONRESPONSIVE. LATE BOND OR OTHER SECURITY WILL BE TREATED IN THE SAME MANNER AS PROVIDED IN THIS SOLICITATION FOR LATE BIDS. FACSIMILE BONDS ARE NOT ACCEPTABLE.

13 52.231-5000 efrEQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995) - EFARS

(a) This clause does not apply to terminations. See 52.249-5000, Basis for settlement of proposals and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region VI. Working conditions shall be considered to be average for determining

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equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(End of clause)

14 52.232-18 AVAILABILITY OF FUNDS (APR 1984)

Funds are not presently available for this contract. The Government's obligation under this contract is contingent upon the availability of appropriated funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the Contracting Officer for this contract and until the Contractor receives notice of such availability, to be confirmed in writing by the Contracting Officer.

(End of clause)

(SS 7-104.91(a) 1962 SEP)

15 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of clause)

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16 52.236-4003 196

SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (APR 1984)

(52.0236-4003 196)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(h) This clause shall be included in all subcontracts at any tier.

(i) Wherever in the specifications, Request for Proposal, or upon the drawings the words "review" or "reviewed" are used, it shall be understood that they mean "review for the purpose of verification against the Request

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for Proposals."

(j) Wherever in the specifications, Request for Proposals, or upon the drawings the words "approval" or "approved" are used, it shall be understood that they mean "approved as complying with the proposal for continuation of design or construction but not obligating the Government to acceptance of the accuracy or structural integrity of the facility."

(k) Approval of plans and specifications will be evidenced by rubber stamps endorsed by the Contracting Officer's Representative as follows:

(1) "Approved for continuation of design" and/or (2) "Approved for Construction."

(End of clause)

17 52.236-4004 196 PHYSICAL DATA (APR 1984) (52.0236-4004 196)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

The physical conditions indicated on the drawings and in the specifications are the result of site investigations by surveys _____.

(a) Weather conditions:

n/a

(b) Transportation facilities:

n/a

(c) Ground water levels: It has been observed that ground water levels in heavily timbered or grassed areas quite often undergo a significant temporary rise when the area is cleared and/or stripped. This increase in water level can hinder traffic and construction progress in the affected areas. The duration of the ground water rise varies considerably, depending on prevailing weather and/or climatic conditions. Ref: Yearbook of Agriculture, 1957, copy available for inspection in Fort Worth District Office.

(End of clause)

(R 7-603.25 1965 JAN)

18 52.236-4005 196

REQUIRING GFP TO BE SALVAGED OR REUSED.

SALVAGE MATERIALS AND EQUIPMENT (JAN 1965) (52.0236-4005 1/96)

a. The Contractor shall maintain adequate property control records for all materials or equipment specified to be salvaged. These records may be in accordance with the Contractor's system of property control, if approved by the property administrator. The contractor shall be responsible for the adequate storage and protection of all salvaged materials and equipment and shall replace, at no cost to the Government, all salvage materials and equipment which are broken or damaged during salvage operations as the result of his negligence, or while in his care.

b. In consideration for credit allowed in the contract price, the title to all scrap and salvage generated as a direct result of this contract is vested in the Contractor unless specifically excepted. The scrap and salvage shall be disposed of off the Base by the Contractor.

19 52.236-14 AVAILABILITY AND USE OF UTILITY SERVICES (APR 1984)

(a) The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

(b) The Contractor, at its expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of

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determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

(End of clause)

(R 7-603.30 1967 APR)

(R 7-2102.4 1976 OCT)

20 52.236-4001 EBS CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (OCT 1996) (52.0236-4001 EBS)

(a) The Government--

(1) Will provide the Contractor, without charge, one set of contract drawings and one set of specifications in electronic format on a compact disk. It is the contractor's responsibility to reproduce a set of contract drawings from this compact disk. The Government will not give the contractor any hard copy paper drawings or specifications for any contract resulting from this solicitation.

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies; and

(4) Be responsible for any errors which might have been avoided by complying with this paragraph (b).

(c) Large scale drawings shall, in general, govern small scale drawings. Figures marked on drawings shall, in general, be followed in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

| Title | File | and | Drawing No. |
|-------|------|-----|-------------|
|-------|------|-----|-------------|

| | | | |
|--|--|--|--|
| DESIGN/BUILD ADDITION/ALTERATION, YAD TEXTILE LAB, BROOKS AFB, TEXAS | | | |
| NOTE: SEE TABLE OF CONTENTS FOR LIST OF DRAWINGS. | | | |

The list of drawings and maps set out in the index on the drawings is hereby incorporated by reference into these specifications.

Schedules included in the drawings are for the purpose of defining requirements other than quantities.

(End of clause)

21 52.236-4006 196 PAYMENT FOR UTILITY SERVICES (FAR 36.303(c)(6)) (52.0236-4006 196)

In accordance with Contract Clause 52.236-14, "Availability and use of Utility Services," water, gas, and electricity are available from Government-owned and operated systems and will be furnished without charge to the Contractor.

(End of clause)

22 52.236-4016 196

QUANTITY SURVEYS (APR 1984)--ALTERNATE I (APR 1984) (52.0236-4016 196)

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on

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the surveys for any periods for which progress payments are requested.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

d) Copies of original road and railroad cross section survey data used by the Government for design of relocation projects will be furnished to the Contractor upon request. The Contractor has the option of using the Government-furnished data as original ground surveys for computing quantities of work performed in lieu of making such surveys as required by subparagraph "a" above. The option for using Government-furnished survey data shall not relieve the Contractor of his responsibility for making surveys required for layout, control of the work, and final surveys as specified herein. Discrepancies found between initial survey data and existing ground surfaces shall be promptly reported to the Contracting Officer.

(End of clause)
(R 7-603.50(a) 1979 MAR)
(R 7-603.50(b) 1979 MAR)

23 52.236-4022 196

SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)(52.0236-4022 196)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

"Subcontractors and Outside Associates and Consultants. (Design) Any subcontractors and outside associates or consultants retained by the Contractor in performance of the design services covered by this contract shall be limited to such individuals or firms as were specifically identified as preparing the proposal. Any substitution in such subcontractors, associates, or consultants will be subject to the prior approval of the Contracting Officer.

"Requirements for Registration of Designer" The design of architectural, structural, mechanical, electrical, civil or other engineering features of the work shall be accomplished or reviewed and approved by architects of engineers registered to practice in the particular professional field involved in a State or possession of the United States, in Puerto Rico, or in the District of Columbia. The Contractor shall also have available either on the staff or his organization or through an associate firm or individual, an engineer with competence in fire protection measures or a fire protection engineer qualified to assure professional evaluation and/or review of projects at all stages of development, and a sound and economic application of fire protection measures."

(End of clause)

24 52.249-5000 efrBASIS FOR SETTLEMENT OF PROPOSALS

"Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a terminations settlement proposal using the total cost basis, the following principles will be applied to determine allowable equipment costs:

(1) Actual costs for each piece of equipment, or groups of similar serial or series equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.

(2) If equipment costs have been allocated to a contract using predetermined rates, those charges will be adjusted to actual costs.

(3) Recorded job costs adjusted for unallowable expenses will be used to determine equipment operating expenses.

(4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR

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31.205-11).

(5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recovered through the indirect expense rate."

(End of Statement)

25 52.252-4 ALTERATIONS IN CONTRACT (APR 1984)

Portions of this contract are altered as follows:

(End of clause)
(R 7-105.1(a) 1949 JUL)

#2 26 52.36-4003 DB KEY PERSONNEL, SUBCONTRACTORS AND OUTSIDE ASSOCIATES OR CONSULTANTS

In connection with the services covered by this contract, any in-house personnel, subcontractors, and outside associates or consultants will be limited to the individuals or firms that were specifically identified and agreed to during negotiations. The contractor shall obtain the Contracting Officer's written consent before making any substitution for these designated in-house personnel, subcontractors, associates, or consultants.
(End of Clause)

#2 27 52.36-4004 DB DESIGN-BUILD CONTRACT ORDER OF PRECEDENCE

(a) The contract includes the standard contract clauses and schedules current at the time of contract award. It also entails: (1) the solicitation in its entirety, including all drawings, cuts and illustrations, and any amendments, and (2) the successful offeror's accepted proposal. The contract constitutes and defines the entire agreement between the Contractor and the Government. No documentation shall be omitted which in any way bears upon the terms of that agreement.
(b) In the event of conflict or inconsistency between any of the provisions of this contract, precedence shall be given in the following order:
1. Betterments: Any portions of the proposer's proposal which both meet and exceed the provisions of the solicitation. See provision entitled, "Proposed Betterments."
2. Contractor identified, Government accepted deviations to the Request for Proposals.
3. The provisions of the solicitation. See provision entitled, "Contract Drawings, Maps, and Specifications."
4. All other provisions of the accepted proposal.
5. Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, equipment installation drawings, etc. These are "deliverables" under the contract and are not part of the contract itself. Design products must conform with all provisions of the contract, in the order of precedence herein.
(End of Clause)

#2 28 52.36-4006 DB SUBMITTAL OF WORK TO BE PERFORMED BY THE CONTRACTOR (LOCAL 1997) (52.0036-4006 DB)

The contractor shall furnish the Contracting Officer within 10 days after the award the items of work he will perform with his own forces and the estimated cost of those items. The percentage of work that must be performed by the Contractor is stated in the clause entitled, "Performance of Work by the Contractor."
(End of Clause)

#2 29 52.36-4008 DB SEQUENCE OF DESIGN/CONSTRUCTION (LOCAL 1997) (52.0036-4008 DB)

(a) After receipt of the contract notice to proceed (NTP) the contractor shall initiate design, comply with all design submission requirements as covered under Division 01 General Requirements, and obtain Government

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review of each submission. No construction may be started until the Government reviews the Final Design submission and determines it satisfactory for purposes of beginning construction. The ACO or COR will notify the contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the ACO or COR, the initial submission failed to meet the minimum quality requirements as set forth in the contract.

(b) If the Government allows the contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.

(c) No payment will be made for any in-place construction until all required submittals have been made, reviewed and are satisfactory to the Government.

(End of Clause)

#2 30 52.36-4009 DB SEQUENCE OF DESIGN/CONSTRUCTION-FAST TRACK (LOCAL 1997) (52.0036-4009 DB)

(a) After receipt of the contract notice to proceed (NTP) the contractor shall initiate design, comply with all design submission requirements as covered under Division 01 General Requirements, and obtain Government review of each submission. The contractor may begin construction on portions of the work for which the Government has reviewed the final design submission and has determined satisfactory for purposes of beginning construction. The ACO or COR will notify the contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the ACO or COR, the initial submission failed to meet the minimum quality requirements as set forth in the contract.

(b) If the Government allows the contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.

(c) No payment will be made for any in-place construction until all required submittals have been made, reviewed and are satisfactory to the Government.

(End of Clause)

#2 31 52.36-4010 DB PROTECTION OF MATERIAL AND WORK (LOCAL 1997) (52.0036-4010 DB)

The contractor shall at all times protect and preserve all materials, supplies and equipment of every description (including property which may be Government-furnished or owned) and all work performed. All reasonable requests of the Contracting Officer to enclose or specially protect such property shall be complied with. If, as determined by the Contracting Officer, material, equipment, supplies, and work performed are not adequately protected by the contractor, such property may be protected by the Government and the cost thereof may be charged to the contractor or deducted from any payment due him.

(End of Clause)

#2 32 52.36-4011 DB CERTIFICATES OF COMPLIANCE (SUBMITTALS) (52.9052-4000 DYE)

Any certificates required for demonstrating proof of compliance of materials with specifications requirements shall be executed in _____ copies. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company and shall contain the name and address of the contractor, the project name and location, and the quantity and state or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the contractor from

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furnishing satisfactory material, if, after tests are performed on selected material, the material is found not to meet the specific requirements.
(End of Clause)

#2 33 52.36-4012 DB RECOMMENDED INSURANCE COVERAGE (LOCAL 1997) (52.0036-4012 DB)

The Design-Build Contractor's attention is invited to the Special Contract Requirements entitled, "Responsibility of the Contractor for Design" and "Warranty of Construction Work". These requirements vest in the Contractor complete responsibility for the professional quality, technical accuracy, and coordination of all design, drawings, specifications and other work or materials furnished by in-house or consultant forces, and requires that the Design/Build contractor correct and revise any errors or deficiencies in his work, notwithstanding any review, approval, acceptance or payment by the Government. The Contractor must correct and change any work resulting from his defective design at no additional cost to the Government. The requirements further stipulate that the Design/Build contractor shall be liable to the Government for the damages to the Government caused by negligent performance of his designers. Though not a mandatory requirement, this is to recommend that the design/build contractor investigate and obtain appropriate insurance coverage for such liability protection.

(End of Clause)

#2 34 52.36-4013 DB TRAINING (LOCAL 1997) (52.0036-4013 DB)

The Contractor shall provide operational and maintenance training for all systems furnished under this contract. The training will be for operating and maintenance personnel. The training shall be put on by the system manufacturer. The training shall not take place until the operation and maintenance manuals are submitted and approved. The Contractor shall video tape the training session on VHS tapes and provide the tapes to the Government.

(End of Clause)

#2 35 52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994) (DEVIATION)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from

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subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of clause)

(R 7-604.4 1976 JUL)

#2 36 52.227-7022 GOVERNMENT RIGHTS (UNLIMITED)(DFARS, Mar 1979)

The Government shall have unlimited rights in all drawings, designs, specifications, notes and all other works developed in the performance of this contract, including the right to use same on any other Government design or construction without additional compensation to the Contractor. The Contractor hereby grants to the Government a paid-up license throughout the world to all such works to which he may assert or establish any claim under design patent or copyright laws. The Contractor for a period of three (3) years after completion of the project agrees to furnish the original or copies of all such works on the request of the Contracting Officer.

(End of Clause)

END OF SECTION 00800

SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.1 PREDESIGN CONFERENCE

Approximately three weeks after award of the contract and prior to the start of any design work an authorized representative of the Contracting Officer will schedule and conduct a predesign conference. The Contractor's Project Manager, architectural and engineering design team, and Design Quality Control Manager will attend this meeting. The Contractor is encouraged to have an officer of his company and representation from any sub-contractors at this conference. This conference will be held at the location specified by the Contracting Officer's authorized representative. Discussion items will include the specified design submission and review procedures, the preliminary design schedule and provisions for phase completion of the design/build documents with construction activities (fast tracking), as appropriate, and any other appropriate pre-design items.

Am#2

1.2 PRECONSTRUCTION CONFERENCE

Approximately one week after completion of, and Contracting Officer's review, of the construction documents and prior to the start of any construction work, an authorized representative of the Contracting Officer will schedule and conduct a preconstruction conference. The Contractor's Project Manager, Superintendent and Quality Control Manager will attend this meeting. The Contractor is encouraged to have an officer of his company and representation from sub-contractors at this conference. This conference will be held at the location specified by the Contracting Officer's authorized representative.

1.2.1 Start of Construction Work

If the Contractor has submitted the Accident Prevention (Safety) Plan, Quality Control Plan, and Environmental Protection Plan for review prior to this meeting, these may be accepted in toto or accepted with comments at the conference. Construction work will not proceed until after this meeting has been held, these three plans noted above have been accepted and the Notice to Proceed has been received and acknowledged by the Contractor.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

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SECTION 01300

SUBMITTALS FOR DESIGN

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Section Includes.

This section includes requirements for developing and submitting a design including preparation of drawings, specifications and design analyses conforming to the requirements contained in this section.

1.1.2 Section Excludes.

This section does not include requirements for construction submittals which are specified in Section 01330, "Submittal Procedures (During Construction)."

1.2 DESIGN COMPLETION SCHEDULE

See paragraph SCHEDULE in Section 01000 DESIGN AND CONSTRUCTION SCHEDULE for the Completion Schedule of the entire work.

1.3 METRIC REQUIREMENTS

1.3.1 Definitions

Definitions of hard and soft metric are specified in Section 01030 Metric Measurements.

1.3.2 Modular Construction Products

Soft metric conversions from their English units are permitted for modular construction products, unless the application of the product requires it to dimensionally coordinate into the 100 millimeter building module. Modular construction products are brick, concrete block, wallboard, plywood, suspended ceiling systems, recessed lighting, raised access flooring and other manufactured components with dimensions based upon a four (4) inch building module. Coordinate finishes available in metric with those available in non-metric.

1.3.3 SI Units of Measure

Products and building components furnished in "hard" metric units are those manufactured using SI units of measure. SI units of measure shall be stated in metric only; do not repeat their English equivalency in parentheses following the metric unit.

1.3.4 Metric Design Guide

The designer shall obtain a copy of and follow the requirements in the "Metric Design Guide (PBS-PQ260), May 1994, U.S. General Services Administration Public Buildings Service". A copy will be furnished after award of the contract.

1.4 DEFINITIONS

1.4.1 Acceptance

This is the Government's review of the design submittals, construction submittals and record drawings for conformance to the RFP and Contractor's proposal requirements. The Contractor's Architect/Engineer (A/E) is the "Designer of Record" and officially approves the design submittals, construction submittals and record drawings. The Contractor is ultimately responsible for the contract design and construction. The Contractor's Quality Control Staff will check and certify all submittals.

1.4.2 Approve, Approved and Approval

As these words are used throughout the documents, they shall mean "as approved by the Designer of Record".

1.4.3 Contractor

Firm or company to whom award was made to design and construct the project.

1.4.4 Design

Documents which include design drawings, project specifications, and design analyses (basis of design and calculations) prepared by or under the direct supervision of registered professional architects and engineers and proposed by the Contractor to meet the requirements of this solicitation.

1.4.5 Design Drawings

Documentation showing in graphic and quantitative form the extent, design, location, relationships, and dimensions of the construction to be provided by the Contractor. (Note: Shop Drawings, as defined in Section 01330, "Submittals During Construction" are not to be provided until after design drawings are approved for construction.)

1.4.6 Designer

Architects and Engineers (A/E) associated with the Contractor who are responsible for the design and have the qualifications and experience specified.

1.4.7 Request for Proposal (RFP)

Documents furnished to prospective offerors containing proposal information and specifying criteria and project requirements for design and construction of the project. The documents include this specification, attachments, and the information drawings.

1.4.8 Technical Specifications

Technical specifications are the Contractor's developed construction specifications consisting of the Government-furnished Division 1 (General Requirements) sections and the Contractor-written sections in Divisions 2 through 16. Divisions 2 through 16 shall include the RFP mandatory specifications, the Contractor-edited RFP's mandatory CEGS and FW guide specifications, Contractor-developed CEGS sections for those items of work covered by the CEGS guides, and the Contractor-developed sections for those items of work not covered by the CEGS guides.

1.4.9 50% Design/Submittal

Shall mean 50% Building and 100% Foundation Design/Submittal.

1.4.10 Complete Specification Section

A Complete Specification Section is one that follows the CEGS Section format as shown in CEGS-01020 CEGS TEMPLATE, including the required submittal and testing requirements.

1.4.11 Corps of Engineers Guide Specifications (CEGS)

Includes the Corps of Engineers Guide Specifications (CEGS) for Military Construction, Corps of Engineers Abridged Guide Specifications (CEAGS) for Military Construction, the narrow-scope sections developed by the Fort Worth District (FWGS), and the Fort Worth District Supplements to the CEGS.

1.5 SUBMISSION OF CONSTRUCTION DRAWINGS, SPECIFICATIONS AND DESIGN ANALYSES

1.5.1 Certification

The Contractor shall certify that all items submitted in the design documents (after contract award) comply with Division 1 specifications, the following specification sections, and requirements of the CEGS. The criteria specified in this RFP are binding contract criteria and in case of any conflict, after award, between the RFP criteria and Contractor's submittals, the criteria stated in the order of precedence (Section 01300) will govern unless there is a written and signed agreement between the Contracting Officer and the Contractor waiving a specific requirement. The Contractor shall present with the letter of transmittal for each design submittal (including the 100 percent corrected design (compliance check) submittal) a certification that the submittal (plans, specifications, design analysis, etc.) complies with the requirements stated above. Prepare the design certification and transmittal letter in the format shown on Attachment A attached at the end of this Section.

1.5.1.1 Signatures

The certification shall be signed by an officer of the Contractor's company and the licensed architect/engineer of record attesting that the drawings, specifications and design analyses prepared for the construction of the facility meet the requirements of the RFP.

1.5.2 Deviations

Deviations from the RFP technical requirements shall be identified in each design submittal's letter of transmittal. Deviations from the RFP technical requirements will be considered for approval by the Contracting Officer if the changes result in a significant improvement to the project or they exceed the minimum RFP technical requirements.

1.5.3 Field Verification

The Contractor shall verify field conditions which are significant to design by field inspection, researching and obtaining all necessary existing facility as-built drawings and reproducing them for his\her own use as necessary, and discussing status with knowledgeable personnel. The information shall be reflected in the design documents.

1.5.4 Number of Copies

The Contractor shall submit, in accordance with paragraph SCHEDULE of Section 01000 DESIGN AND CONSTRUCTION SCHEDULE, the number of copies (as specified in paragraph "Review Location") of the construction drawings and specifications, design analyses, equipment schedules, and all other submittal data, which shall be in accordance with the requirements of the RFP, all current revisions, the Contractor's proposal, and all other terms and conditions affecting contract award. Upon final acceptance, the Contractor shall within 7 calendar days furnish the same number of copies as above (and one reproducible) of the accepted technical documents (drawings, design analysis, and specifications). Proposed modifications shall be submitted in 2 copies. Final modifications, after negotiations, shall be submitted in 2 copies (including one reproducible).

1.5.5 Final Construction Drawings

Provide documents complete, accurate and explicit enough to show compliance with the RFP requirements and to permit construction. Drawings and specifications illustrating systems proposed to meet the requirements of the RFP performance specifications shall reflect proper detailing for each such system to assure appropriate use, proper fit, compatibility of components and coordination with the design analysis and specifications required by this section. Coordinate drawings to ensure there are no conflicts between design disciplines and between drawings and specifications. See Section 01302 DESIGN DOCUMENTS REQUIREMENTS for additional requirements.

1.5.5.1 Computer Aided Design and Drafting (CADD) Systems

Final design (100 percent) drawings, and as-built drawings after the completion of the project, shall be submitted on CD-ROM disk in Intergraph DGN format, along with the hard copies of the drawings, specifications and design analysis. Two sets of the CADD disks furnished by the Contractor. Format shall conform to the Fort Worth District Drafting Manual drafting standards, Fort Worth District CADD Standards, and the Fort Worth District CADD Design File and Sheet Naming Conventions, all of which are available upon request (after contract award).

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Furnish for approval the qualifications and experience of the personnel, and types of equipment and software, to be used for this work. CADD work will not proceed until the Contractor's proposed CADD system and resulting CADD files have been acceptably demonstrated to work on the Corps of Engineers' Resident Office and the User's CADD systems.

1.5.5.2 Size of CADD Drawings

Size of CADD drawings shall be 594 mm by 841 mm (23.7 by 33.6 inches) trim to trim with borders and title conforming to the Fort Worth District Drafting Manual standard drawing layout. Recommended overall sheet size is 610 mm by 914 mm (24 by 36 inches).

1.5.5.3 Specifications and Design Analysis

Specifications and design analysis shall be provided in hard copy and on the same CD-ROM disk as the drawings, Microsoft Word for Windows (Version 6) format. The Division 1 sections included in the RFP shall be reprinted in the final 100 percent Construction specifications. Hard copies of the specifications and design analyses shall be bound separately in 3-ring binders. Each set of documents shall have its own Table of Contents. See Section 01302 DESIGN DOCUMENTS REQUIREMENTS for editing and format requirements.

1.6 Design Documents

Design documents shall include construction drawings, specifications, and design analysis for categories such as, but not limited to, architectural, structural, mechanical, electrical, grading, drainage, paving, and outside utility services. Specifications shall be in sufficient detail to fully describe and demonstrate the quality of materials, the installation and performance of equipment, and the quality of workmanship. Specifications shall conform to the Construction Specifications Institute (CSI) 16-Division 3-Part format, follow the CSI's section numbering system defined in CSI Masterformat, and utilize the Corps of Engineers CEGS, Fort Worth District FW guide specifications, and Fort Worth District Supplements to the CEGS. Specifications shall include any mandatory specifications specified in Attachment 3. Division 1 specifications shall consist of the Division 1 sections included in this RFP. Detailing and installation of all equipment and materials shall comply with the manufacturers recommendations. Construction drawings and specifications shall not make reference to RFP requirements. The design analysis shall be for each discipline of work and shall include all features with the necessary calculations, tables, methods, and sources used in determining equipment and material sizes and capacities, and shall provide sufficient information to support the design. The Contractor, including designers, shall visit the site and make other trips as necessary during the design to accomplish the work.

The specifications shall clearly identify the specific products chosen to meet the requirements of the RFP (manufacturers' brand names and model numbers or similar product information). Turfing sections shall indicate planting dates.

1.7 Design Reviews

Design reviews shall be held at Brooks Air Force Base at the 50 percent and 100 percent completion stages of the final design. The Government shall have not less than thirty (30) days review period for each submittal (50 percent design and 100 percent Design) and seven (7) days review period for resubmittal of the 100 percent Design incorporating final review comments. Design review conference(s) between the Contractor and the Government may be held after submittal of the 50 percent and 100 percent design(s) if the Government determines them necessary. The time for Government review will be calculated from the date of receipt of the design submittals at the Government address to the date annotated conformance review comments are mailed to the Contractor.

1.7.1 Design Submittals

1.7.1.1 50 Percent Design Submittal

The 50 percent design submittal includes the 50 percent in-progress building design plus the 100% complete sitework, exterior utilities, and foundation design. These documents shall be packaged and stamped "For Review Only - 50% Design"; and each sheet of the drawings shall also be stamped except sitework, exterior utilities, and foundation drawings, which will be stamped 100% design submittal. See Section 01302 DESIGN DOCUMENTS REQUIREMENTS for additional requirements.

1.7.1.2 100 Percent Design Submittal

The 100 percent design submittal includes complete site and utility design and building design and shall be stamped "For Review Only -100% Design", and each sheet of the drawings shall also be stamped. Contractor shall make final proposal of all materials and finishes at this stage. The compliance check design submittal(s) after the Government review of the 100 percent complete building design shall be stamped "100% Corrected Design"; and each sheet of the drawings shall also be stamped. No additional time for completion of the contract will be granted to the Contractor due to insufficient design submittals. See Part 3 paragraph "Government Design Review and Acceptance" for additional requirements. See Section 01302 DESIGN DOCUMENTS REQUIREMENTS for additional requirements.

1.7.1.3 Drawing Review Design Documents

The Contractor shall submit all drawing design documents on blue-line media with "FOR REVIEW" stamped in 12.5 mm high letters in the lower right corner in red ink. Specifications and Design Analyses shall be hard copy with "FOR REVIEW" stamped in 12.5 mm high letters in the lower right corner in red ink. The Contractor shall submit approved documents on black-line media with "APPROVED FOR CONSTRUCTION" similarly stamped.

1.7.2 Review Location

Review documents shall be sent, in the quantity indicated, to the addresses listed below. The documents will be in their then present "on-board" design status. All documents must contain an index of contents. Work shall, however, continue up to the time of the review conference date(s) when 2 copies of then-current design documents will be brought to

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the issuing office for the conference review. Originals of transmittal letters shall be sent to the Area Engineer, address as shown below, and copies should accompany each mail package. Transmittal letters shall indicate distribution by use of the "ATTN" code shown in the address.

(1 copy) Commander
ATTN: HQ AFMC CES/CECC (Darold D. Irvine)
4225 Logistics Ave, Suite 7
Wright Patterson AFB, OH 45433-5001

(7 copies) Commander
ATTN: 70 CES/CEC (Sandy Hamby)
8103 9th Street
Brooks Air Force Base
San Antonio, Texas 78235-5355

(7 copies) District Engineer
US Army Engineer District, Fort Worth
ATTN: CESWF-EC-S
P.O. Box 17300
Fort Worth, TX 76102-0300

(5 copies) Resident Engineer
U.S. Army Engineer District, Fort Worth
ATTN: CESWF-R0-K (Stuart Shillington)
2105 15th Street, Building 4195
Fort Sam Houston, Texas 78234-5046

1.7.3 Additional Review Time

If for any reason the Government requires more time than that stated for review, then the Contractor will be granted an extension of time equal to the number of calendar days of delay.

Am#2 1.8 DELETED.

Am#2 1.9 Government Design Review and Acceptance

Government personnel will present review comments for discussion and resolution. Copies of comments, annotated with comment action agreed on, will be made available to all parties before the conference adjourns. Unresolved problems will be resolved by immediate follow-on action at the end of conferences. Valid comments will be incorporated. On receipt of final corrected design documents and their acceptance, the Fort Worth District will _____ issue a _____ letter authorizing the Contractor to proceed with construction. The Government, however, reserves the right to disapprove design document submittals if comments are of too great a significance. In this case, every effort shall be made during follow-up action between the Contractor and the Fort Worth District to resolve conflicts and problems such that documents can be accepted. However, if final submittal(s) are incomplete or deficient, requiring correction by the Contractor and resubmittal for review, the cost of rehandling and reviewing will be deducted from payment due the Contractor at the rate of \$500.00 per submittal.

PART 2 PRODUCTS (Not Applicable)

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PART 3 EXECUTION (Not Applicable)

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Attachment A

[Prime Contractor's Letterhead]

[Date: _____]

[Contract No. _____]

[Reviewing Component Address]

Subj: DESIGN CERTIFICATION AND TRANSMITTAL FOR

[Project Title _____]

[Project Location _____]

[Contract No. _____]

Gentlemen

Enclosed are the following documents which I hereby certify are in compliance with the RFP requirements of the subject construction contract and can be used to commence construction subject to Government acceptance:

1. Design Drawings
2. Project Specification
3. Design Analysis
 - a. Civil
 - b. Water Supply and Wastewater Collection
 - c. Architectural
 - d. Interior Design
 - e. Structural
 - f. Mechanical
 - g. Fire Protection
 - h. Electrical
4. Submittals Register

[Typed Name and Signature of an
Officer of the Prime Contractor's company]

5. Deviations

Copy to:

[As standard with the Contractor]

[Typed Name and Signature of the
Licensed Architect/Engineer of Record]

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SECTION 02080

ASBESTOS ABATEMENT

PART

1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- \-ANSI Z9.2-\ (1979; R 1991) Fundamentals Governing the Design and Operation of Local Exhaust Systems
- \-ANSI Z87.1-\ (1989; Errata; Z87.1a) Occupational and Educational Eye and Face Protection
- \-ANSI Z88.2-\ (1992) Respiratory Protection

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- \-ASTM C 732-\ (1995) Aging Effects of Artificial Weathering on Latex Sealants
- \-ASTM D 522-\ (1993a) Mandrel Bend Test of Attached Organic Coatings
- \-ASTM D 1331-\ (1989; R 1995) Surface and Interfacial Tension of Solutions of Surface-Active Agents
- \-ASTM D 2794-\ (1993) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
- \-ASTM D 4397-\ (1991) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
- \-ASTM E 84-\ (1995a) Surface Burning Characteristics of Building Materials
- \-ASTM E 96-\ (1995) Water Vapor Transmission of Materials
- \-ASTM E 119-\ (1995a) Fire Tests of Building Construction and Materials
- \-ASTM E 736-\ (1992) Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
- \-ASTM E 1368-\ (1990) Visual Inspection of Asbestos Abatement Projects

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CODE OF FEDERAL REGULATIONS (CFR)

| | |
|-----------------|--|
| \-29 CFR 1910-\ | Occupational Safety and Health Standards |
| \-29 CFR 1926-\ | Safety and Health Regulations for Construction |
| \-40 CFR 61-\ | National Emissions Standards for Hazardous Air Pollutants |
| \-40 CFR 763-\ | Asbestos |
| \-42 CFR 84-\ | Approval of Respiratory Protective Devices |
| \-49 CFR 107-\ | Hazardous Materials Program Procedures |
| \-49 CFR 171-\ | General Information, Regulations and Definitions |
| \-49 CFR 172-\ | Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements |
| \-49 CFR 173-\ | Shippers - General Requirements for Shipments and Packagings |

COMPRESSED GAS ASSOCIATION (CGA)

| | |
|---------------|---|
| \-CGA G-7-\ | (1990) Compressed Air for Human Respiration |
| \-CGA G-7.1-\ | (1989) Commodity Specification for Air |

ENVIRONMENTAL PROTECTION AGENCY (EPA)

| | |
|----------------------|--|
| \-EPA 340/1-90-018-\ | (1990) Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance |
| \-EPA 340/1-90-019-\ | (1990) Asbestos/NESHAP Adequately Wet Guidance |
| \-EPA 560/5-85-024-\ | (1985) Guidance for Controlling Asbestos-Containing Materials in Buildings |

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

| | |
|--------------|--|
| \-NFPA 701-\ | (1996) Methods of Fire Test for Flame-Resistant Textiles and Films |
|--------------|--|

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

| | |
|--------------------------|---|
| \-NIOSH Pub No. 84-100-\ | (1984; Supple 1985, 1987, 1988 & 1990) NIOSH Manual of Analytical Methods |
|--------------------------|---|

UNDERWRITERS LABORATORIES (UL)

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\-UL 586-\ (1990; Rev Apr 1995) High-Efficiency,
Particulate, Air Filter Units

UNITED STATES ARMY CORPS OF ENGINEERS (USACE)

\-EM 385-1-1-\ (1996) Safety and Health Requirements Manual

1.2 DEFINITIONS

Adequately Wet: A term defined in \-40 CFR 61-\, Subpart M, and \-EPA 340/1-90-019-\ meaning to sufficiently mix or penetrate with liquid to prevent the release of particulate. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

Aggressive Method: Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact asbestos-containing material (ACM).

Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with \-ASTM D 1331-\.

Asbestos: Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

Asbestos Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length-to-width ratio of at least 3 to 1.

Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.

Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by \-40 CFR 763-\ Subpart E, Appendix C.

Certified Industrial Hygienist (CIH): An Industrial Hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.

Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.

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Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.

Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

Competent Person: In addition to the definition in \-29 CFR 1926-\ Section .32(f), a person who is capable of identifying existing asbestos hazards as defined in \-29 CFR 1926-\ Section .1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; accreditation required by \-40 CFR 763-\ Subpart E, Appendix C.

Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; accreditation required by \-40 CFR 763-\, Subpart E, Appendix C.

Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

Critical Barrier: Two (2) layer of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

Disposal Bag: A \^0.15 mm^\ \~6 mil~\ thick, leak-tight plastic bag, pre-labeled in accordance with \-29 CFR 1926-\ Section .1101, used for transporting asbestos waste from containment to disposal site.

Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in one standard sized glovebag or waste bag in order to access a building component. In no event shall the amount of ACM so disturbed exceed that which can be contained in one glovebag or waste disposal bag which shall not exceed \^1.5 m^\ \~60 inches~\ in length and width.

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Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.

Employee Exposure: That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.

Friable ACM: A term defined in 40 CFR 61 Subpart M and EPA 340/1-90-018 meaning any material which contains more than 1 percent asbestos, as determined using the method specified in 40 CFR 763 Subpart F, Appendix A, Section 1, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent, as determined by a method other than point counting by PLM, the asbestos content shall be verified by point counting using PLM.

Glovebag: Not more than a 1.5 by 1.5 m² 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

Homogeneous Area: An area of surfacing material or thermal system insulation that is uniform in color and texture.

Industrial Hygienist: A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.

Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763 Subpart E, Appendix C.

Modification: A changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system.

Negative Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61 Subpart M.

Nonfriable ACM: A NESHAP term defined in 40 CFR 61 Subpart M and EPA 340/1-90-018 meaning any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR 763

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Subpart F, Appendix A, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

Nonfriable ACM (Category I): A NESHAP term defined in \-40 CFR 61-\ Subpart M and \-EPA 340/1-90-018-\ meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in \-40 CFR 763-\ Subpart F, Appendix A, Section 1, Polarized Light Microscopy.

Nonfriable ACM (Category II): A NESHAP term defined in \-40 CFR 61-\ Subpart M and \-EPA 340/1-90-018-\ meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos, as determined using the methods specified in \-40 CFR 763-\ Subpart F, Appendix A, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Permissible Exposure Limits (PELs):

a. PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an eight hour time weighted average (TWA), as determined by the method prescribed in \-29 CFR 1926-\ Section .1101, Appendix A, or the current version of NIOSH analytical method 7400.

b. PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes as determined by the method prescribed in \-29 CFR 1926-\ Section .1101, Appendix A, or the current version of NIOSH analytical method 7400.

Regulated Area: An OSHA term defined in \-29 CFR 1926-\ Section .1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates. (If the amount of asbestos so "disturbed" cannot be contained in one standard glovebag or waste bag, Class I precautions are required).

Spills/Emergency Cleanups: Cleanup of sizable amounts of asbestos waste and debris which has occurred, for example, when water damage occurs in a building, and sizable amounts of ACM are dislodged. A Competent Person evaluates the site and ACM to be handled, and based on the type, condition and extent of the dislodged material, classifies the cleanup as Class I, II, or III. Only if the material was intact and the cleanup involves mere contact of ACM, rather than disturbance, could there be a Class IV classification.

Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces,

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such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

Transite: A generic name for asbestos cement wallboard and pipe.

Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos worker training required by 29 CFR 1926.1101 to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation required by 40 CFR 763. Subpart E, Appendix C, if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 DESCRIPTION OF WORK

The work covered by this section is to be performed at Building No. 578, Brooks Air Force Base, San Antonio, Texas. The work includes the removal of asbestos-containing materials (ACM) which are encountered during renovation activities associated with this project, describes procedures (i.e. exposure assessment, air monitoring and final clearance) and equipment required to protect workers and occupants of the regulated area from exposure to airborne asbestos fibers, ACM and debris. Activities include OSHA Class II work operations involving floor tile and mastic. The work also includes containment, storage, transportation and disposal of the generated ACM wastes. More specific operational procedures shall be detailed in the required Accident Prevention Plan and its subcomponents, the Asbestos Hazard Abatement Plan and Activity Hazard Analyses required in paragraph SAFETY AND HEALTH PROGRAM.

Initial abatement of asbestos abatement work is required at the shaded area of Area 3 (see sheet no. H-1 of 1), the new location of the Virtual Reality Lab, prior to all other areas (see Table 1, this section). It is mandatory that the Virtual Reality Lab shall remain operational at all times. Therefore removal of floor tile and mastic by abatement Contractor and renovation by others shall be completed prior to removal of the existing Lab equipment and immediate reinstallation at the new Lab location. The Contractor shall coordinate abatement phasing work with the Contracting Officer. The abatement Contractor shall reference the Architectural drawing for layout of the new and the existing Lab locations. The floor tile and mastic at the unshaded area in Area 3 shall be abated when ACM abatement is to be performed at Area 2, 4 and 7 (see Table 1, this section and sheet no. H-1 of 1).

The abatement Contractor shall determine which is the most economical abatement protocol to the Government in preparing a new area for the Virtual Reality Lab. The options include (1) abate an adequate quantity of floor tile and mastic (estimated 75 square feet which is to be verified with the design/built contract drawings to be prepared) for installing the new wall of the Lab, or (2) abate the total surface area of floor tile and mastic (estimated 650 square feet which is to be verified with the design/built contract drawings to be prepared) for the new Lab.

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The abatement Contractor shall implement procedures for protection of workers, equipment, and adjacent areas. At completion of abatement phasing work, the abatement Contractor shall verify to the Contracting Officer that the abated area is free of asbestos fibers. All exposed or cut (floor tiles and mastic) edges shall be encapsulated to prevent future release of asbestos fiber, in accordance with paragraph 2.1 ENCAPSULANTS. Asbestos abatement phasing working shall be performed in accordance with PART 3, EXECUTION of this section.

1.3.1 Abatement Work Tasks

Asbestos survey data and the specific asbestos-containing materials to be abated are identified on drawing sheet no. H-1 of 1. Table 1, appended herein, summarized the "Work Task Data Elements".

1.3.2 Unexpected Discovery of Asbestos

For any previously untested building components suspected to contain asbestos and located in areas impacted by the work, the Contractor shall notify the Contracting Officer Representative (COR) who will have the option of ordering up to one (1) bulk samples to be obtained at the Contractor's expense and delivered to a laboratory accredited under the National Institute of Standards and Technology (NIST) "National Voluntary Laboratory Accreditation Program (NVLAP)" and analyzed by PLM at no additional cost to the Government. Any additional components identified as ACM that have been approved by the COR for removal shall be removed by the Contractor and will be paid for by an equitable adjustment to the contract price under the CONTRACT CLAUSE titled "changes". Sampling activities undertaken to determine the presence of additional ACM shall be conducted by personnel who have successfully completed the EPA Model Accreditation Plan (MAP) "Building Inspector" training course required by 40 CFR 763-\ Subpart E, Appendix C.

1.4 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300=\ SUBMITTAL PROCEDURES:

SD-01 Data\

Materials and Equipment\; *FIO*\.

Manufacturer's catalog data for all materials and equipment to be used in the work, including brand name, model, capacity, performance characteristics and any other pertinent information. Test results and certificates from the manufacturer of encapsulants substantiating compliance with performance requirements of this specification. Material Safety Data Sheets for all chemicals to be used onsite in the same format as implemented in the Contractor's HAZARD COMMUNICATION PROGRAM. Data shall include, but shall not be limited to, the following items:

- a. High Efficiency Filtered Air (HEPA) local exhaust equipment
- b. Vacuum cleaning equipment

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- c. Pressure differential monitor for HEPA local exhaust equipment
- d. Air monitoring equipment
- e. Respirators
- f. Personal protective clothing and equipment
 - (1) Coveralls
 - (2) Underclothing
 - (3) Other work clothing
 - (4) Foot coverings
 - (5) Hard hats
 - (6) Eye protection
 - (7) Other items required and approved by Contractors Designated IH and Competent Person
- g. Glovebag
- h. Duct Tape
- i. Disposal Containers
 - (1) Disposal bags
 - (2) Fiberboard drums
 - (3) Paperboard boxes
- j. Sheet Plastic
 - (1) Polyethylene Sheet - General
 - (2) Polyethylene Sheet - Flame Resistant
 - (3) Polyethylene Sheet - Reinforced
- k. Wetting Agent
 - (1) Amended Water
 - (2) Removal encapsulant
- l. Strippable Coating
- m. Prefabricated Decontamination Unit(s)
- n. Other items
- o. Chemical encapsulant
- p. Chemical encasement materials
- q. Material Safety Data Sheets (for all chemicals proposed)

SD-04 Drawings\

Site Layout\; *GA*\.

Descriptions, detail project drawings, and site layout to include worksite containment area, local exhaust ventilation system locations, decontamination and load-out units, other temporary waste storage facility, access tunnels, location of temporary utilities (electrical, water, sewer) and boundaries of each regulated area.

SD-08 Statements\

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Qualifications\; *GA*\.

A written report providing evidence of qualifications for personnel, facilities and equipment assigned to the work (see paragraph 1.5).

Training Program\; *FIO*\.

A copy of the written project site-specific training material as indicated in \-29 CFR 1926-\ Section .1101 that will be used to train onsite employees. This training document shall be signed by the Contractor's Designated IH and Competent Person.

Medical Requirements\; *FIO*\.

Physician written result.

Encapsulants\; *GA*\.

Certificates stating that encapsulants meet the applicable specified performance requirements (see paragraph 2.1).

SD-09 Reports\

Exposure Assessment and Air Monitoring\; *GA*\.

Initial exposure assessments, negative exposure assessments, air-monitoring results and documentation (see paragraph 3.9).

Local Exhaust Ventilation\; *FIO*\.

Pressure differential recordings.

Licenses, Permits and Notifications\; *GA*\.

Licenses, permits and notifications (see paragraph 1.14).

SD-13 Certificates\

Vacuum, Filtration and Ventilation Equipment\; *FIO*\.

Manufacturer's certifications showing compliance with \-ANSI Z9.2-\ for:

- a. Vacuums.
- b. Water filtration equipment.
- c. Ventilation equipment.
- d. Other equipment required to contain airborne asbestos fibers.

SD-18 Records\

Respiratory Protection Program\; *GA*\.

Records of the respirator program (see paragraph 1.12).

Safety and Health Program and Plan\; *GA*\.

See paragraph 1.7 for requirement.

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Project Document\; *GA*\.

Copy of licenses, permits, and notifications. Copy of waste shipment records. Copy of weigh bills and delivery tickets. Copy of daily narrative log which describes work performed, problems and resolution. Copy of daily air monitoring log and analytical results. Copy of bulk sampling analytical results for bulk samples approved by COR. Certificate of Workers Acknowledgment (See paragraph 3.11.5).

1.5 *QUALIFICATIONS*

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; Designated IH (person assigned to project and firm name); independent testing laboratory (including name of firm, principal and analyst(s) who will perform analyses); all subcontractors to be used including disposal transportation and disposal facility firms, subcontractor supervisors, subcontractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization for this project by name and title, chain of command and reporting relationship with all subcontractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, Designated IH, designated testing laboratory and the principals of all subcontractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of \-29 CFR 1926-\ Section .1101, \-40 CFR 61-\ Subpart M, and the federal, state and local requirements specified in paragraph SAFETY AND HEALTH COMPLIANCE for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

a. Designated Competent Person: The name, address, telephone number, and resume of the Contractor's Designated Competent Person shall be provided. Evidence that the full-time Designated Competent Person is qualified in accordance with \-29 CFR 1926-\ Sections .32 and .1101, has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by \-40 CFR 763-\ Subpart E, Appendix C, and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The duties of the Competent Person shall include the following: controlling entry to and exit from the regulated area; supervising any employee exposure monitoring required by \-29 CFR

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1926-\ Section .1101; ensuring that all employees working within a regulated area wear the appropriate personal protective equipment (PPE), are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified; and ensuring that engineering controls in use are in proper operating conditions and are functioning properly. This Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan and Asbestos Hazard Abatement Plan. The Designated Competent Person shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that this person has a minimum of two (2) years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

b. Project and Other Supervisors: The Contractor shall provide the name, address, telephone number, and resume of the Project Supervisor and other supervisors who have responsibility to implement the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses, the authority to direct work performed under this contract and verify compliance and have EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by \-40 CFR 763-\ Subpart E, Appendix C. The Project Supervisor and other supervisors shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that the Project Supervisor has a minimum of two (2) years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of one (1) years on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

c. Designated Industrial Hygienist: The Contractor shall provide the name, address, telephone number, resume and other information specified below for the Industrial Hygienist (IH) selected to prepare the Contractor's Asbestos Hazard Abatement Plan, prepare and perform training, direct air monitoring and assist the Contractor's Competent Person in implementing and ensuring that safety and health requirements are complied with during the performance of all required work. The Designated IH shall be a person who is board certified in the practice of industrial hygiene as determined and documented by the American Board of Industrial Hygiene (ABIH), has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by \-40 CFR 763-\ Subpart E, Appendix C and has a minimum of two (2) years of comprehensive experience in planning and overseeing asbestos abatement activities. The Designated IH shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Designated IH shall be completely independent from the Contractor according to federal, state, or local regulations; that is, shall not be a Contractor's employee or be an employee or principal of a firm in a business relationship with the Contractor negating such independent status. A copy of the Designated IH's current valid ABIH certification shall be included. The Designated IH shall

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be onsite at all times. In addition, the Designated IH shall prepare, and the Contractor shall submit, the name, address, telephone numbers and resumes of additional IH's and industrial hygiene technicians (IHT) who will be assisting the Designated IH in performing onsite tasks. IHs and IHTs supporting the Designated IH shall have a minimum of two (2) full years of practical onsite asbestos abatement experience. The formal reporting relationship between the Designated IH and the support IHs and IHTs, the Designated Competent Person, and the Contractor shall be indicated.

d. Asbestos Abatement Workers: Asbestos abatement workers shall meet the requirements contained in \-29 CFR 1926-\ Section .1101, \-40 CFR 61-\ Subpart M and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment" in this paragraph.

e. Worker Training and Certification of Worker Acknowledgment: Training documentation shall be required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment" to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. All training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

f. Physician: The Contractor shall provide the name, medical qualifications, address, telephone number and resume of the physician who will or has performed the medical examinations and evaluations of the persons who will conduct the asbestos abatement work tasks. The physician shall be currently licensed by the state where the workers will be or have been examined, have expertise in pneumoconioses and shall be responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with \-29 CFR 1926-\ Section .1101 and paragraph MEDICAL REQUIREMENTS. The physician shall be familiar with the site's hazards and the scope of this project. The medical consultant's name, qualifications, and knowledge of the site's conditions and proposed activities shall be included in the Accident Prevention Plan.

g. First Aid and CPR Trained Persons: The names of at least two persons who are currently trained in first aid and CPR by the American Red Cross or other approved agency shall be designated and shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of P.E. as described in the Blood borne Pathogens Standard of \-29 CFR 1910-\ Section .1030 and shall be included in the Contractor's Blood borne Pathogen Program. These persons may perform other duties but shall be immediately available to render first aid when needed. A copy of each designated person's current valid First Aid and CPR certificate shall be provided.

h. Independent Testing (including air monitoring) Laboratory and Technicians: The Contractor shall provide the name, address, telephone number, and license number with date of expiration of the independent testing laboratory and technicians selected to perform the sample analyses and report the results. The testing laboratory and technicians shall be completely independent from the Contractor as recognized by federal, state

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or local regulations. Written verification of the following criteria, signed by the testing laboratory principal and the Contractor, shall be submitted:

(1) Phase contrast microscopy (PCM): The laboratory is fully equipped and proficient in conducting PCM of airborne samples using the methods specified by \-29 CFR 1926-\ Section .1101, OSHA method ID-160, the most current version of \-NIOSH Pub No. 84-100-\ Method 7400, and \-NIOSH Pub No. 84-100-\ Method 7402, transmission electron microscopy (TEM); the laboratory is currently judged proficient (classified as acceptable) in counting airborne asbestos samples by PCM by successful participation in each of the last 4 rounds in the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) Program; the names of the selected microscopists who will analyze airborne samples by PCM with verified documentation of their proficiency to conduct PCM analyses by being judged proficient in counting samples as current participating analysts in the AIHA PAT Program, and having successfully completed the Asbestos Sampling and Analysis course (NIOSH 582 or equivalent) with a copy of course completion certificate provided; when the PCM analysis is to be conducted onsite, documentation shall be provided certifying that the onsite analyst meets the same requirements.

(2) Polarized light microscopy (PLM): The laboratory is fully equipped and proficient in conducting PLM analyses of suspect ACM bulk samples in accordance with \-40 CFR 763-\ Subpart E, Appendix E; the laboratory is currently accredited by NIST under the NVLAP for bulk asbestos analysis and will use analysts (names shall be provided) with demonstrated proficiency to conduct PLM to include its application to the identification and quantification of asbestos content.

(3) Transmission electron microscopy (TEM): The laboratory is fully equipped and proficient in conducting TEM analysis of airborne samples using the mandatory method specified by \-40 CFR 763-\ Subpart E, Appendix E; the laboratory is currently accredited by NIST under the NVLAP for airborne sample analysis of asbestos by TEM; the laboratory will use analysts (names shall be provided) that are currently evaluated as competent with demonstrated proficiency under the NIST NVLAP for airborne sample analysis of asbestos by TEM. The laboratory is proficient in conducting analysis using an improved EPA test method titled "Method for the Determination of Asbestos in Bulk Building Materials". This method provides more precise analytical results especially at low asbestos concentration, enhanced analysis of floor tiles and bulk materials where multiple layers are present.

(4) PCM/TEM: The laboratory is fully equipped and each analyst (name shall be provided) possesses demonstrated proficiency in conducting PCM and TEM analysis of airborne samples using \-NIOSH Pub No. 84-100-\ Method 7400 PCM and \-NIOSH Pub No. 84-100-\ Method 7402 (TEM confirmation of asbestos content of PCM results) from the same filter.

i. Disposal Facility, Transporter: The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the state and local regulatory agencies. Copies of signed agreements between the Contractor (including subcontractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste generated during the performance of this contract shall be provided. Qualifications shall be provided for each subcontractor or

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transporter to be used, indicating previous experience in transport and disposal of asbestos waste to include all required state and local waste hauler requirements for asbestos. The Contractor and transporters shall meet the DOT requirements of \-49 CFR 171-\, \-49 CFR 172-\, and \-49 CFR 173-\ as well as registration requirements of \-49 CFR 107-\ and other applicable state or local requirements. The disposal facility shall meet the requirements of \-40 CFR 61-\ Sections .154 or .155 as required in \-40 CFR 61-\ Section .150(b) and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subcontractors shall submit a statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, there will be a negative declaration signed by an officer of the company.

1.5.4 Liability

The Contractor shall obtain without additional expense to the Government, the asbestos abatement liability insurance as required by this Contract. The Contractor shall assume full responsibility and liability for the compliance of all Federal, state, and local regulations pertaining to work practices, hazard communication, hauling, disposal, and protection of workers, visitors to the project site, and persons occupying area adjacent to the project site.

1.6 REGULATORY REQUIREMENTS

In addition to detailed requirements of this specification, work performed under this contract shall comply with \-EM 385-1-1-\, applicable federal, state, and local laws, ordinances, criteria, rules and regulations regarding handling, storing, transporting, and disposing of asbestos waste materials. This includes, but is not limited to, OSHA standards, \-29 CFR 1926-\, especially Section .1101, \-40 CFR 61-\ Subpart M and 40 CFR 763. Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply. The following state and local laws, rules and regulations regarding demolition, removal, encapsulation, construction alteration, repair, maintenance, renovation, spill/emergency cleanup, housekeeping, handling, storing, transporting and disposing of asbestos material apply: Texas Asbestos Health Protection Rules.

1.7 SAFETY AND HEALTH PROGRAM AND PLANS

The Contractor's Designated IH shall develop and submit a written comprehensive site-specific Accident Prevention Plan at least 30 days prior to the preconstruction conference. The Accident Prevention Plan shall address all requirements of \-EM 385-1-1-\, Appendix A, covering onsite

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work to be performed by the Contractor and all subcontractors. The Accident Prevention Plan shall incorporate an Asbestos Hazard Abatement Plan, and Activity Hazard Analyses as separate appendices into one site specific Accident Prevention Plan document. Any portions of the Contractor's overall Safety and Health Program that are referenced in the Accident Prevention Plan, e.g., respirator program, hazard communication program, confined space entry program, etc., shall be included as appendices to the Accident Prevention Plan. The plan shall take into consideration all the individual asbestos abatement work tasks identified in Table 1. The plan shall be prepared, signed, sealed (including certification number), and dated by the Contractor's Designated IH, Competent Person, and Project Supervisor.

1.7.1 The Asbestos Hazard Abatement Plan Appendix

The Asbestos Hazard Abatement Plan appendix to the Accident Prevention Plan shall include, but not be limited to, the following:

- a. The personal protective equipment to be used;
- b. The location and description of regulated areas including clean and dirty areas, access tunnels, and decontamination unit (clean room, shower room, equipment room, storage areas such as load-out unit);
- c. Initial exposure assessment in accordance with \-29 CFR 1926-\ Section .1101;
- d. Level of supervision;
- e. Method of notification of other employers at the worksite;
- f. Abatement method to include containment and control procedures;
- g. Interface of trades involved in the construction;
- h. Sequencing of asbestos related work;
- i. Storage and disposal procedures and plan;
- j. Type of wetting agent and asbestos encapsulant to be used;
- k. Location of local exhaust equipment;
- l. Air monitoring methods (personal, environmental and clearance); sample frequency and location for each regulated area.
- m. Bulk sampling and analytical methods (if required);
- n. A detailed description of the method to be employed in order to control the spread of ACM wastes and airborne fiber concentrations;
- o. Fire and medical emergency response procedures;
- p. The security procedures to be used for all regulated areas.

1.7.2 The Activity Hazard Analyses Appendix

Activity Hazard Analyses, for each major phase of work, shall be submitted and updated during the project. The Activity Hazard Analyses format shall be in accordance with \-EM 385-1-1-\ (Figure 1-1). The analysis shall define the activities to be performed for a major phase of work, identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the Activity Hazard Analyses has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the onsite Government representatives. The Activity Hazard Analyses shall be continuously reviewed and, when appropriate, modified to address changing site conditions or operations.

1.8 PRECONSTRUCTION CONFERENCE AND ONSITE SAFETY

The Contractor and the Contractor's Designated Competent Person, Project Supervisor, and Designated IH shall meet with the COR prior to beginning work at a safety preconstruction conference to discuss the details of the Contractor's submitted Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses appendices. Deficiencies in the Accident Prevention Plan will be discussed and the Accident Prevention Plan shall be revised to correct the deficiencies and resubmitted for acceptance. Any changes required in the specification as a result of the Accident Prevention Plan shall be identified specifically in the plan to allow for free discussion and acceptance by the COR prior to the start of work. Onsite work shall not begin until the Accident Prevention Plan has been accepted. A copy of the written Accident Prevention Plan shall be maintained onsite. Changes and modifications to the accepted Accident Prevention Plan shall be made with the knowledge and concurrence of the Designated IH, the Project Supervisor, Designated Competent Person, and the COR. Should any unforeseen hazard become evident during the performance of the work, the Designated IH shall bring such hazard to the attention of the Project Supervisor, Designated Competent Person, and the COR, both verbally and in writing, for resolution as soon as possible. In the interim, all necessary action shall be taken by the Contractor to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment. Once accepted by the COR, the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses will be enforced as if an addition to the contract. Disregard for the provisions of this contract or the accepted Accident Prevention Plan shall be cause for stopping of work, at the discretion of the COR, until the matter has been rectified.

1.9 SECURITY

Fenced and locked security area shall be provided for each regulated area. A log book shall be kept documenting entry into and out of the regulated area. Entry into regulated areas shall only be by personnel authorized by the Contractor and the COR. Personnel authorized to enter regulated areas shall be trained, be medically evaluated, and wear the required personal protective equipment, for the specific regulated area to be entered.

1.10 *MEDICAL REQUIREMENTS*

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Medical requirements shall conform to \-29 CFR 1926-\ Section .1101.

1.10.1 Medical Examinations

Before being exposed to airborne asbestos fibers, workers shall be provided with a medical examination as required by \-29 CFR 1926-\ Section .1101 and other pertinent state or local requirements. This requirement must have been satisfied within the last 12 months. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. X-ray films of asbestos workers shall be identified to the consulting radiologist and medical record jackets shall be marked with the word "asbestos."

1.10.1.1 Information Provided to the Physician

The Contractor shall provide the following information in writing to the examining physician:

- a. A copy of \-29 CFR 1926-\ Section .1101 and Appendices D, E, G, and I;
- b. A description of the affected employee's duties as they relate to the employee's exposure;
- c. The employee's representative exposure level or anticipated exposure level;
- d. A description of any personal protective and respiratory equipment used or to be used;
- e. Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician,
- f. Employee's social security number.

1.10.1.2 Written Medical Opinion

For each worker, a written medical opinion prepared and signed by a licensed physician indicating the following:

- a. Summary of the results of the examination.
- b. The potential for an existing physiological condition that would place the employee at an increased risk of health impairment from exposure to asbestos.
- c. The ability of the individual to wear personal protective equipment, including respirators, while performing strenuous work tasks under cold and/or heat stress conditions.
- d. A statement that the employee has been informed of the results of the examination, provided with a copy of the results, informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure, and informed of any medical condition that may result from asbestos exposure.

1.10.2 Medical and Exposure Records

Complete and accurate records shall be maintained of each employee's medical examinations, medical records and exposure data as required by \-29 CFR 1910-\ Section .1910.20 and \-29 CFR 1926-\ Section .1101 for a period of 30 years after termination of employment. Records of the required medical examinations and exposure data shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health (OSHA) or authorized representatives of the employee and an employee's physician upon request of the employee or former employee. A copy of the required medical certification for each employee shall be maintained on file at the worksite for review, as requested by the COR or the representatives.

1.11 *TRAINING PROGRAM*\

1.11.1 General

The Contractor shall establish a training program as specified by EPA Model Accreditation Plan (MAP), training requirements at \-40 CFR 763-\ Subpart E, Appendix C, the State of Texas, Texas Asbestos Health Protection Rules, OSHA requirements at \-29 CFR 1926-\ Section .1101(k)(9) and this specification. Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented and provided to the COR as specified in paragraph QUALIFICATIONS.

1.11.2 Project Specific Training

Prior to commencement of work, each worker shall be instructed by the Contractor's Designated IH and Competent Person in the following project specific training:

- a. The hazards and health effects of the specific types of ACM to be abated;
- b. The content and requirements of the Contractor's Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses and site-specific safety and health precautions;
- c. Hazard Communication Program;
- d. Hands-on training for each asbestos abatement technique to be employed;
- e. Heat and/or cold stress monitoring specific to this project;
- f. Air monitoring program and procedures;
- g. Medical surveillance to include medical and exposure record keeping procedures;
- h. The association of cigarette smoke and asbestos-related disease;
- i. Security procedures;

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j. Specific work practice controls and engineering controls required for each Class of work in accordance with \-29 CFR 1926-\ Section .1101.

1.12 *RESPIRATORY PROTECTION PROGRAM*

The Contractor's Designated IH shall establish in writing, and implement a respiratory protection program in accordance with \-29 CFR 1926-\ Section .1101, \-29 CFR 1910-\ Section .134, \-ANSI Z88.2-\, \-CGA G-7-\, \-CGA G-7.1-\ . The Contractor's Designated IH shall establish minimum respiratory protection requirements based on measured or anticipated levels of airborne asbestos fiber concentrations encountered during the performance of the asbestos abatement work. The Contractor's respiratory protection program shall include, but not be limited to, the following elements:

- a. The company policy, used for the assignment of individual responsibility, accountability, and implementation of the respiratory protection program.
- b. The standard operating procedures covering the selection and use of respirators. Respiratory selection shall be determined by the hazard to which the worker is exposed.
- c. Medical evaluation of each user to verify that the worker may be assigned to an activity where respiratory protection is required.
- d. Training in the proper use and limitations of respirators.
- e. Respirator fit-testing, i.e., quantitative, qualitative and individual functional fit checks.
- f. Regular cleaning and disinfection of respirators.
- g. Routine inspection of respirators during cleaning and after each use when designated for emergency use.
- h. Storage of respirators in convenient, clean, and sanitary locations.
- i. Surveillance of regulated area conditions and degree of employee exposure (e.g., through air monitoring).
- j. Regular evaluation of the continued effectiveness of the respiratory protection program.
- k. Recognition and procedures for the resolution of special problems as they affect respirator use (e.g., no facial hair that comes between the respirator face piece and face or interferes with valve function; prescription eye wear usage; contact lenses usage; etc.).
- l. Proper training in putting on and removing respirators.

1.12.1 Respiratory Fit Testing

A qualitative or quantitative fit test conforming to \-29 CFR 1926-\ Section .1101, Appendix C shall be conducted by the Contractor's Designated IH for each Contractor worker required to wear a respirator, and for the

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COR and authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed for each worker wearing a negative-pressure respirator prior to initially wearing a respirator on this project and every 6 months thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, or of full-facepiece air purifying respirators where they are worn at levels at which half-facepiece air purifying respirators are permitted. If physical changes develop that will affect the fit, a new fit test for the worker shall be performed. Functional fit checks shall be performed by employees each time a respirator is put on and in accordance with the manufacturer's recommendation.

1.12.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as required by 29 CFR 1926 Section .1101 and in accordance with the manufacturer's recommendations. Respirators shall be approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (MSHA/NIOSH), under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. Personnel who handle ACM, enter regulated areas that require the wearing of a respirator, or who are otherwise carrying out abatement activities that require the wearing of a respirator, shall be provided with approved respirators that are fully protective of the worker at the measured or anticipated airborne asbestos concentration level to be encountered. For air-purifying respirators, the particulate filter portion of the cartridges or canister approved for use in airborne asbestos environments shall be high-efficiency particulate air (HEPA). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Contractor's Designated IH based on the measured or anticipated airborne asbestos fiber concentrations to be encountered. All recommendations made by the Contractor's Designated IH to downgrade respirator type shall be submitted in writing to the COR. The Contractor's Designated Competent Person in consultation with the Designated IH, shall have the authority to take immediate action to upgrade or downgrade respiratory type when there is an immediate danger to the health and safety of the wearer. Respirators shall be used in the following circumstances:

- a. During all Class I asbestos jobs (which is not applicable to this project).
- b. During all Class II work where the ACM is not removed in a substantially intact state.
- c. During all Class II and III (Class III work is not applicable to this project) work which is not performed using wet methods. Respirators need not be worn during removal of ACM from sloped roofs when a negative exposure assessment has been made and ACM is removed in an intact state.
- d. During all Class II and III (Class III work is not applicable to this project) asbestos jobs where the Contractor does not produce a negative exposure assessment.
- e. During all Class III jobs where TSI or surfacing ACM is being disturbed (which is not applicable to this project).

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f. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators (which is not applicable to this project).

g. During all work where employees are exposed above the PEL-TWA or PEL-Excursion Limit.

h. In emergencies

1.12.3 Class I Work (Not applicable to this project)

1.12.4 Class II Work

The Contractor shall provide a half-mask air purifying respirator, other than a disposable respirator, equipped with high-efficiency filters whenever the employee performs Class II asbestos jobs where the Contractor does not produce a negative exposure assessment.

1.12.5 Sanitation

Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

1.13 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926.59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the COR's onsite Representative and one copy shall be included in the Contractor's Hazard Communication Program.

1.14 *LICENSES, PERMITS AND NOTIFICATIONS*

1.14.1 General Requirements

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall notify in writing, the Texas Department of Health, Division of Occupational Health, Asbestos Programs Branch, 1100 West 49th Street, Austin, Texas 78756, at least 20 working days prior to the commencement of work in accordance with the state regulation. The state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. The Notification shall be signed by the base environmental flight and sent by Certified Mail with Return Receipt requested. The Contractor shall furnish copies of the receipts to the COR, in writing, prior to the commencement of work. Local fire department shall be notified 3 days before fire-proofing material is removed from a building and the notice shall specify when the material contains asbestos. A copy of the rental company's written acknowledgment and agreement shall be provided as required by paragraph Rental Equipment. For licenses, permits and notifications that the

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Contractor is responsible for obtaining, the Contractor will pay any associated fees or other costs incurred.

1.14.2 Litigation and Notification

The Contractor shall notify the COR if any of the following occur:

- a. The Contractor or any of the subcontractors are served with notice of violation of any law, regulation, permit or license which relates to this Contract;
- b. Proceedings are commenced which could lead to revocation of related permits or licenses; permits, licenses or other Government authorizations relating to this Contract are revoked;
- c. Litigation is commenced which would affect this contract;
- d. The Contractor or any of the subcontractors become aware that their equipment or facilities are not in compliance or may fail to comply in the future with applicable laws or regulations.

1.15 PERSONAL PROTECTIVE EQUIPMENT

A minimum of one (1) complete set of personal protective equipment shall be made available to the COR and authorized visitors for entry to the regulated area. COR and authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of the required personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Contractor's Designated IH and Designated Competent Person supervisor shall select and approve all the required personal protective clothing and equipment to be used.

1.15.1 Respirators

See paragraph RESPIRATORY PROTECTION PROGRAM.

1.15.2 Whole Body Protection

Personnel exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. The Contractor's Designated IH and Competent Person supervisor shall select and approve the whole body protection to be used. The Competent Person shall examine work suits worn by employees at least once per work shift for rips or tears that may occur during performance of work. When rips or tears are detected while an employee is working, rips and tears shall be immediately mended, or the work suit shall be immediately replaced. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926.1101. Whole body protection used for asbestos abatement shall not be removed from the worksite by a worker to be cleaned. All

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recommendations made by the Contractor's Designated IH to downgrade whole body protection shall be submitted in writing to the COR. The Contractor's Designated Competent Person in consultation with the Designated IH, shall have the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.15.2.1 Coveralls

Disposable-breathable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles.

1.15.2.2 Underwear

Disposable underwear shall be provided. If reusable underwear are used, they shall be disposed of as asbestos contaminated waste or laundered in accordance with \-29 CFR 1926-\ Section .1101. Asbestos abatement workers shall not remove contaminated reusable underwear worn during abatement of ACM from the site to be laundered.

1.15.2.3 Work Clothing

An additional coverall shall be provided when the abatement and control method employed does not provide for the exit from the regulated area directly into an attached decontamination unit. Cloth work clothes shall be provided for wear under the protective coverall and foot coverings when work is being conducted in low temperature conditions. Cloth work clothes shall be either disposed of as asbestos contaminated waste or properly laundered in accordance with \-29 CFR 1926-\ Section .1101.

1.15.2.4 Gloves

Gloves shall be provided to protect the hands. Where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.) a suitable glove shall be provided and used.

1.15.2.5 Foot Coverings

Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA and \-EM 385-1-1-\, that is appropriate for safety and health hazards in the area shall be worn. Rubber boots shall be used in moist or wet areas. All reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste. All disposable protective foot covering shall be disposed of as ACM waste. If rubber boots are not used, disposable foot covering shall be provided.

1.15.2.6 Head Covering

Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.15.2.7 Protective Eye Wear

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Eye protection provided shall be in accordance with \-ANSI Z87.1-\.

1.16 HYGIENE FACILITIES AND PRACTICES

The Contractor shall indicate the type of hygiene facility to be use for this project in the Contractor's Asbestos Hazard Abatement Plan. The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.16.1 Shower Facilities

Shower facilities, when provided, shall comply with \-29 CFR 1910-\ Section .141(d)(3).

1.16.2 3-Stage Decontamination Area (Not used in this project)

1.16.3 Load-Out Unit

A temporary load-out unit that is adjacent and connected to the regulated area and access tunnel shall be provided. Utilization of prefabricated units shall be approved by the COR. The load-out unit shall be attached in a leak-tight manner to each regulated area. Surfaces of the load-out unit and access tunnel shall be adequately wet-wiped 2 times after each shift change. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.16.4 Single Stage Decontamination Area

A decontamination area (equipment room/area) shall be provided for Class I work (which is not applicable to this project) involving less than 7.5 m^3 or $0.9 \text{ square meters}$ of TSI or surfacing ACM, and for Class II asbestos work operations where exposures exceed the PELs or where there is no negative exposure assessment produced before the operation. The equipment room or area shall be adjacent to the regulated area for the decontamination of employees, material, and their equipment which is contaminated with asbestos. The equipment room or area shall consist of an area covered by an impermeable drop cloth on the floor or horizontal working surface. The area must be of sufficient size to accommodate cleaning of equipment and removing personal protective equipment without spreading contamination beyond the area. Surfaces of the equipment room shall be wet wiped two times after each shift. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.16.5 Decontamination Requirements for Class IV Work (Not used in this project)

1.16.6 Decontamination Area Entry Procedures

The Contractor shall ensure that employees entering the decontamination area through the clean room or clean area:

- a. Remove street clothing in the clean room or clean area and deposit it in lockers.

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- b. Put on protective clothing and respiratory protection before leaving the clean room or clean area.
- c. Pass through the equipment room to enter the regulated area.

1.16.7 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

- a. Before leaving the regulated area, respirators shall be worn while employees remove all gross contamination and debris from their work clothing using a HEPA vacuum.
- b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers for disposal and/or laundering.
- c. Employees shall not remove their respirators in the equipment room.
- d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees : a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning work suits, and proceed to a shower that is not adjacent to the work area.
- e. After showering, employees shall enter the clean room before changing into street clothes.

1.16.8 Lunch Areas

The Contractor shall provide lunch areas in which the airborne concentrations of asbestos are below 0.01 f/cc.

1.16.9 Smoking

Smoking is discouraged but, if allowed by the Contractor, shall only be permitted in designated areas approved by the COR.

1.17 REGULATED AREAS

All asbestos abatement work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.18 WARNING SIGNS AND TAPE

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Warning signs and tape printed bilingually in English and Spanish, pictographs and graphics shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be so located to allow personnel to read the signs and take the necessary protective steps required before entering the area. Warning signs, as shown and described in DETAIL SHEET 11, shall be in vertical format conforming to \-29 CFR 1910-\ and \-29 CFR 1926-\ Section .1101, minimum \^500 by 350 mm^\ \~20 by 14 inches~\ and displaying the following legend in the lower panel:

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD

AUTHORIZED PERSONNEL ONLY

[RESPIRATORS AND PROTECTIVE CLOTHING

ARE REQUIRED IN THIS AREA]

Spacing between lines shall be at least equal to the height of the upper of any two lines. Warning tape and decontamination unit signage shall be provided.

1.19 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers used to contain asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to requirements are acceptable. Warning labels being used shall conform to \-29 CFR 1926-\ Section .1101 and shall be of sufficient size to be clearly legible displaying the following legend:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

1.20 *LOCAL EXHAUST VENTILATION*

Local exhaust ventilation units shall conform to \-ANSI Z9.2-\ and \-29 CFR 1926-\ Section .1101. Filters on local exhaust system equipment shall conform to \-ANSI Z9.2-\ and \-UL 586-\ . Filter shall be UL labeled.

1.21 TOOLS

Vacuums shall be leak proof to the filter, equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is

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equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system or has otherwise been approved for use by the COR. All residual asbestos shall be removed from reusable tools prior to storage and reuse. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.22 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment. A written acceptance of the terms of the Contractor's notification shall be obtained from the rental agency.

1.23 AIR MONITORING EQUIPMENT

The Contractor's Designated IH shall select and approve air monitoring equipment to be used to collect samples. The equipment shall include, but not be limited to:

a. High-volume sampling pumps that can be calibrated and operated at a constant airflow up to 16 liters per minute when equipped with a sampling train of tubing and filter cassette.

b. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute when equipped with a sampling train of tubing and filter cassette, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow even as filter resistance increases due to accumulation of fiber and debris on the filter surface.

c. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands, to be used with low flow pumps in accordance with 29 CFR 1926 Section .1101 for personal air sampling.

d. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands, to be used with high flow pumps when conducting environmental area sampling using NIOSH Pub No. 84-100 Methods 7400 and 7402.

e. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette.

f. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of -20 to $+60$ degrees C -4 to $+140$ degrees F and traceable to a NIST primary standard.

1.24 EXPENDABLE SUPPLIES

1.24.1 Disposal Containers

Leak-tight disposal containers shall be provided for ACM wastes as required by 29 CFR 1926.1101. Leak-tight means that solids, liquids or dust cannot escape or spill out.

1.24.2 Leak-tight Wrapping

Two layers of 0.15 mm (6 mil) minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in disposal bags. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.24.3 Sheet Plastic

Sheet plastic shall be polyethylene of 0.15 mm (6 mil) minimum thickness and shall be provided in the largest sheet size necessary to minimize seams.

1.24.4 Viewing Inspection Window

Where feasible, a minimum of 1 clear, 3 mm (1/8 inch) thick, acrylic sheet, 450 by 610 mm (18 by 24 inches), shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. All such windows shall be sealed leak-tight with industrial grade duct tape.

1.24.5 Wetting Agents

If required per Contractor's Asbestos Hazard Abatement Plan, removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM equal to or greater than provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.24.6 Strippable Coating

If required per Contractor's Asbestos Hazard Abatement Plan, strippable coating in aerosol cans shall be used to adhere to surfaces and to be removed cleanly by stripping at the completion of work. This work shall only be done in well ventilated areas.

1.25 MISCELLANEOUS ITEMS

A sufficient quantity of other items shall be provided including, but not limited to, scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, wooden ladders, lumber necessary for the construction of containments, UL approved temporary electrical equipment, material and cords, ground fault circuit interrupters, water hoses of sufficient length, fire extinguishers, first aid kits, portable toilets, logbooks, log forms,

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markers with indelible ink, spray paint in bright color to mark areas, project boundary fencing, etc.

PART 2 PRODUCTS

2.1 *ENCAPSULANTS*\

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent and shall meet the following requirements:

| \^ ALL ENCAPSULANTS | |
|--|------------------------------|
| Requirement | Test Standard |
| Flame Spread - 25, Smoke Emission - 50 | \-ASTM E 84-\ |
| Combustion Toxicity Zero Mortality | Univ. of Pittsburgh Protocol |
| Life Expectancy, 20 yrs Accelerated Aging Test \-ASTM C 732-\ | |
| Permeability - Minimum 0.4 perms | \-ASTM E 96-\ |

Additional Requirements for Bridging Encapsulant

| Requirement | Test Standard |
|--|-----------------|
| Cohesion/Adhesion Test, 730 N/m | \-ASTM E 736-\ |
| Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing) | \-ASTM E 119-\ |
| Impact Resistance, Min. 4.7 N-m (Gardner Impact Test) | \-ASTM D 2794-\ |
| Flexibility, no rupture or cracking (Mandrel Bend Test) | \-ASTM D 522-\ |

Additional Requirement for Penetrating Encapsulant

| Requirement | Test Standard |
|--|-----------------|
| Cohesion/Adhesion Test, 730 N/m | \-ASTM E 736-\ |
| Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing) | \-ASTM E 119-\ |
| Impact Resistance, Min. 4.7 N-m (Gardner Impact Test) | \-ASTM D 2794-\ |

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Flexibility, no rupture or cracking
(Mandrel Bend Test) \-ASTM D 522-\

Additional Requirement for Lockdown Encapsulant

| Requirement | Test Standard |
|---|----------------|
| Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over encapsulant applied directly to steel member) | \-ASTM E 119-\ |
| Bond Strength, 1.5 kN/m (Tests compatibility with cementitious and fibrous fireproofing)^\ | \-ASTM E 736-\ |

2.2 ENCASEMENT PRODUCTS (Not Used in this project)

2.3 MISCELLANEOUS MATERIALS

Miscellaneous materials to be used in this project shall be discussed in the Contractor's Asbestos Hazard Abatement Plan.

2.3.1 Glovebag

Glovebags shall be provided as described in \-29 CFR 1926-\ Section .1101. The glovebag assembly shall be \^0.15 mm^\ \~6 mil~\ thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

2.3.2 Duct Tape

Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal container shall be provided.

2.3.3 Disposal Bags

Leak-tight bags, \^0.15 mm^\ \~6 mil~\ thick, shall be provided for placement of asbestos generated waste.

2.3.4 Fiberboard Drums

Fiberboard drums, if required for this project, shall be specified in the Contractor's Asbestos Hazard Abatement Plan.

2.3.5 Cardboard Boxes

Heavy-duty corrugated cardboard boxes coated with plastic or wax to retard deterioration from moisture shall be provided. Boxes shall fit into selected ACM disposal bags. Filled boxes shall be sealed leak-tight with duct tape.

2.3.6 Polyethylene Sheet

2.3.6.1 General

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Film shall be frosted or black and conform to \-ASTM D 4397-\.

2.3.6.2 Flame Resistant

Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted or black and shall conform to the requirements of \-NFPA 701-\.

2.3.6.3 Reinforced

Reinforced sheets shall be provided where high skin strength is required such as where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between two layers of polyethylene film. Film shall meet flame resistant standards of \-NFPA 701-\.

2.3.7 Amended Water

Amended water shall meet the requirements of \-ASTM D 1331-\.

2.3.8 Mastic Removing Solvent

Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 60 degrees C. 140 degrees F.~\

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall use the engineering controls and work practices required in \-29 CFR 1926-\ Section .1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and equipment as specified. Eating, smoking, drinking, chewing or applying cosmetics shall not be permitted in the regulated area. All hot work (burning, cutting, welding, etc.) shall be conducted under strictly controlled conditions in conformance with \-29 CFR 1926-\ Section .352, Fire Prevention and in compliance with Activity Hazard Analyses Appendix (see paragraph 1.7.2). Personnel of other trades, not engaged in asbestos abatement activities, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's Accident Prevention Plan are complied with. Power to the regulated area shall be locked-out and tagged in accordance with \-29 CFR 1910-\ and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc or the pre-abatement concentration, whichever is greater, outside the regulated area, or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the COR, at no additional expense to the government, including visual inspection and air sampling. Work will resume only upon notification by the COR. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, as verified by the COR using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Government as deemed appropriate by the COR. This includes inadvertent spill of dirt, dust or debris in which it is reasonable to conclude that asbestos may exist. When these spills occur, work shall stop in all effected areas immediately and the spill shall be cleaned. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Contractor's Designated IH and the COR, work may proceed.

3.3 OBJECTS

3.3.1 Removal of Mobile Objects

Mobile furniture and equipment will be removed from the area of work by the Government before asbestos abatement work begins.

3.3.2 Stationary Objects (Not used in this project)

3.3.3 Reinstallation of Mobile Objects (Not used in this project)

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilating systems supplying air into or returning air out of an regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with \-29 CFR 1910-\ Section .147. and isolated by airtight seals to prevent the spread of contamination throughout the system. Air-tight critical barriers shall be installed on all building ventilating openings located inside the regulated area that supply or return air from the building ventilation system or serve to exhaust air from the building. The critical barriers shall consist of air-tight rigid covers for building ventilation supply and exhaust grills where the ventilation system is required to remain in service during abatement, and 2 layers of polyethylene. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape. Critical barriers shall be installed by the Contractor.

3.5 PRECLEANING

Surfaces shall be cleaned by HEPA vacuum and adequately wet wiped prior to establishment of containment.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The Contractor shall employ proper handling procedures in accordance with \-29 CFR 1926-\ and \-40 CFR 61-\ Subpart M, and the specification requirements herein. The specific abatement techniques and items identified shall be detailed in the Contractor's Asbestos Hazard Abatement Plan including, but not limited to, details of construction materials, equipment, and handling procedures. The Contractor shall use the following

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engineering controls and work practices in all operations, regardless of the levels of exposure:

- a. Vacuum cleaners equipped with HEPA filters to collect debris and dust containing ACM.
- b. Wet methods or wetting agents to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup; except where it can be demonstrated that the use of wet methods is unfeasible due to, for example, the creation of electrical hazards, equipment malfunction, and in roofing.
- c. Prompt clean-up and disposal in leak-tight containers of wastes and debris contaminated with asbestos.
- d. Inspection and repair of polyethylene in work and high traffic areas.
- e. Cleaning of equipment and surfaces of containers filled with ACM prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods to comply with the PELs:

- a. Local exhaust ventilation equipped with HEPA filter dust collection systems;
- b. Enclosure or isolation of processes producing asbestos dust;
- c. Ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter;
- d. Use of other work practices and engineering controls;
- e. Where the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with paragraph, RESPIRATORY PROTECTION PROGRAM.

3.6.3 Unacceptable Practices

The following work practices and engineering controls shall not be used for work related to asbestos or for work which disturbs ACM, regardless of measured levels of asbestos exposure or the results of initial exposure assessments:

- a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
- b. Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed

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ventilation system designed to capture the dust cloud created by the compressed air.

c. Dry sweeping, shoveling, or other dry clean-up of dust and debris containing ACM.

d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work (Not used in this project)

3.6.5 Specific Control Methods for Class I Work (Not used in this project)

3.6.5.1 Negative Pressure Enclosure (NPE) System (Not used in this project)

3.6.5.2 Glovebag Systems (Not used in this project)

3.6.5.3 Mini-Enclosures (Not used in this project)

3.6.5.4 Wrap and Cut Operation (Not used in this project)

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the work.

b. For indoor work, critical barriers shall be placed over all openings to the regulated area.

c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

In addition to requirements of paragraph Class II Work, Class II work shall be performed using the following methods:

3.6.7.1 Vinyl and Asphalt Flooring Materials

Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean floors.

3.6.7.2 Roofing Material (Not used in this project)

3.6.7.3 Cementitious Siding and Shingles or Transite Panels (Not used in this project)

3.6.7.4 Gaskets (Not used in this project)

3.6.7.5 Other Class II Job

The following work practices shall be used when performing other Class II removal of ACM: The material shall be thoroughly wetted with amended water prior and during its removal. The material shall be removed in an intact state. Cutting, abrading or breaking the material shall be prohibited. The ACM removed shall be immediately bagged or wrapped.

3.6.8 Specific Control Methods for Class III Work (Not used in this project)

3.6.9 Specific Control Methods for Class IV Work (Not used in this project)

3.6.10 Roofing Materials and Pipeline Asphaltic Wrap (Not used in this project)

3.6.11 Cleaning After Asbestos Removal

After completion of all asbestos removal work, surfaces from which ACM has been removed shall be wet wiped or sponged clean, or cleaned by some equivalent method to remove all visible residue. Run-off water shall be collected and filtered through a dual filtration system. A first filter shall be provided to remove fibers 20 micrometers and larger, and a final filter provided that removes all fibers 5 micrometers and larger. After the gross amounts of asbestos have been removed from every surface, all remaining visible accumulations of asbestos on floors shall be collected using plastic shovels, rubber squeegees, rubber dustpans, and HEPA vacuum cleaners as appropriate to maintain the integrity of the regulated area.

3.6.12 Class I Asbestos Work Response Action Detail Sheets (Not used in this project)

3.6.13 Class II Asbestos Work Response Action Detail Sheets (Not used in this project)

3.6.14 Abatement of Asbestos Contaminated Soil (Only applicable if Contractor has contaminated soil with asbestos waste)

Soil removal to a minimum depth of $\sqrt{50 \text{ mm.}}$ or approximately 2 inches, if soil is contaminated by asbestos waste during execution of this project. Soil shall be thoroughly dampened with amended water and then removed by manual shoveling into labeled containers. The workers shall be closely monitored for heat exhaustion. The minimum ventilation shall be 8 air exchanges per hour through a local exhaust HEPA system.

3.6.15 Enclosure of ACM (Not used in this project)

3.6.16 Encapsulation of ACM

Prior to applying any encapsulant, the entire surface area shall be inspected for loose, or damaged asbestos materials.

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a. Penetrating Encapsulation: Before penetrating encapsulant is applied, asbestos removal work in the area shall be complete and the surfaces to be encapsulated shall be freed of loose or damaged material. Substrate must be evaluated before application to ensure that the encapsulant will not cause the substrate to fail in any way. Plug samples shall be taken to determine if full penetration has been achieved. If full penetration has not been achieved, surfaces shall be recoated while the matrix is still wet until full penetration has been achieved.

b. Bridging Encapsulation: Prior to applying the bridging encapsulant, the pre-encapsulation inspection shall be performed. The surface shall be encapsulated in sections of 93 square meters (1000 square feet) or less as recommended by the encapsulation manufacturer. Upon completion of each section, the dry thickness of the bridging encapsulation shall be measured. Additional bridging encapsulant shall be applied to obtain the desired encapsulant thickness. Additional coats shall blend with the original bridging encapsulant.

3.6.17 Combination Encapsulation of Acoustical Wall and Ceiling Plaster (Not used in this project)

3.6.18 Response Action Detail Sheets for Repair of Class I Materials (Not used in this project)

3.6.19 Response Action Detail Sheets for Repair of Class II Materials

The abatement Contractor shall specified techniques and illustrations of abatement action to be used in the Contractor's Asbestos Abatement Hazard Plan.

3.6.20 Encasement of ACM (Not used in this project)

3.6.21 Sealing Contaminated Items Designated for Disposal (Not used in this project)

3.7 FINAL CLEANING AND VISUAL INSPECTION

Upon completion of abatement, the regulated area shall be cleaned by collecting, packing, and storing all gross contamination. A final cleaning shall be preformed using HEPA vacuum and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area in preparation for a final inspection before final air clearance monitoring and recleaning, as necessary. Upon completion of the final cleaning, the Contractor and the COR shall conduct a final visual inspection of the cleaned regulated area in accordance with \-ASTM E 1368-\ and document the results on the Final Cleaning and Visual Inspection appended herein. If the COR rejects the clean regulated area as not meeting final cleaning requirements, the Contractor shall reclean as necessary and have a follow-on inspection conducted with the COR. Recleaning and follow-up reinspection shall be at the Contractor's expense.

3.8 LOCKDOWN

Prior to removal of plastic barriers and after clean-up of gross contamination and final visual inspection, a post removal (lockdown)

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encapsulant shall then be spray applied to ceiling, walls, floors, and other surfaces in the regulated area.

3.9 *EXPOSURE ASSESSMENT AND AIR MONITORING*\

3.9.1 General Requirements

Exposure assessment, air monitoring and analysis of airborne concentration of asbestos fibers shall be performed in accordance with \-29 CFR 1926-\ Section .1101, the Contractor's air monitoring plan, and as specified. Personal exposure air monitoring (collected at the breathing zone) that is representative of the exposure of each employee who is assigned to work within a regulated area shall be performed by the Contractor's Designated IH. The Contractor shall be responsible for fees associated with exposure assessment, air monitoring, and final clearance testing. Breathing zone samples shall be taken for at least 25 percent of the workers in each shift, or a minimum of two, whichever is greater. Air monitoring results at the 95 percent confidence level shall be calculated as shown in Table 2 at the end of this section. The Contractor will provide an independent testing laboratory with qualified analysts and appropriate equipment to conduct sample analyses of air samples using the methods prescribed in \-29 CFR 1926-\ Section .1101 to include \-NIOSH Pub No. 84-100-\ Method 7400. Preabatement and abatement environmental air monitoring shall be performed by the Contractor's Designated IH. Final clearance environmental air monitoring, shall be performed by the Contractor's Designated IH. Environmental and final clearance air monitoring shall be performed using \-NIOSH Pub No. 84-100-\ Method 7400 (PCM) with optional confirmation of results by \-NIOSH Pub No. 84-100-\ Method 7402 (TEM). For environmental and final clearance, air monitoring shall be conducted at a sufficient velocity and duration to establish the limit of detection of the method used at 0.005 f/cc. Confirmation of asbestos fiber concentrations (asbestos f/cc) from environmental and final clearance samples collected and analyzed by \-NIOSH Pub No. 84-100-\ Method 7400 (total f/cc) may be conducted using TEM in accordance with \-NIOSH Pub No. 84-100-\ Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the \-NIOSH Pub No. 84-100-\ Method 7400 PCM analysis. For all Contractor required environmental or final clearance air monitoring, confirmation of asbestos fiber concentrations, using \-NIOSH Pub No. 84-100-\ Method 7402, shall be at the Contractor's expense. Monitoring may be duplicated by the Government at the discretion of the COR. Results of breathing zone samples shall be posted at the job site and made available to the COR. The Contractor shall maintain a fiber concentration inside a regulated area equal to or less than 0.1 f/cc expressed as an 8 hour, time-weighted average (TWA) during the conduct of the asbestos abatement. If fiber concentration rises above 0.1 f/cc, work procedures shall be investigated with the COR to determine the cause. At the discretion of the COR, fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. Should either an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA or a personal excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside a regulated work area, the Contractor shall stop work immediately, notify the COR, and implement additional engineering controls and work practice controls to reduce airborne fiber

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levels below prescribed limits in the work area. Work shall not restart until authorized by the COR.

3.9.2 Initial Exposure Assessment

The Contractor's Designated IH shall conduct an exposure assessment immediately before or at the initiation of an asbestos abatement operation to ascertain expected exposures during that operation. The assessment shall be completed in time to comply with the requirements which are triggered by exposure data or the lack of a negative exposure assessment, and to provide information necessary to assure that all control systems planned are appropriate for that operation. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the Contractor which indicate the levels of airborne asbestos likely to be encountered on the job.

3.9.3 Negative Exposure Assessment

The Contractor shall provide a negative exposure assessment for the specific asbestos job which will be performed. The negative exposure assessment shall be provided within 2 days of the initiation of the project and conform to the following criteria:

a. Objective Data: Objective data demonstrating that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations exceeding the PEL-TWA and PEL-Excursion Limit under those work conditions having the greatest potential for releasing asbestos;

b. Prior Asbestos Jobs: Where the Contractor has monitored prior asbestos jobs for the PEL-TWA and the PEL-Excursion Limit within 12 months of the current job, the monitoring and analysis were performed in compliance with asbestos standard in effect; and the data were obtained during work operations conducted under workplace conditions "closely resembling" the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations, the operations were conducted by employees whose training and experience are no more extensive than of employees performing the current job, and these data show that under the conditions prevailing and which will prevail in the current workplace there is a high degree of certainty that employee exposures will not exceed the PEL-TWA and PEL-Excursion Limit; or

c. Initial Exposure Monitoring: The results of initial exposure monitoring of the current job made from breathing zone air samples that are representative of the 8-hour PEL-TWA and 30-minute short-term exposures of each employee covering operations which are most likely during the performance of the entire asbestos job to results in exposures over the PELs.

3.9.4 Preabatement and Environmental Air Monitoring

Preabatement environmental air monitoring shall be established 1 day prior to the masking and sealing operations for each regulated area to determine

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background concentrations before abatement work begins. As a minimum, preabatement air samples shall be collected using \-NIOSH Pub No. 84-100-\ Method 7400, PCM at these locations: outside the building; inside the building, but outside the regulated area perimeter; and inside each regulated work area. One sample shall be collected for every \^185 square meters^\ \~2000 square feet~\ of floor space. At least two samples shall be collected outside the building: at the exhaust of the HEPA unit; and downwind from the abatement site. The PCM samples shall be analyzed within 24 hours; and if any result in fiber concentration greater than 0.01 f/cc, asbestos fiber concentration shall be confirmed using \-NIOSH Pub No. 84-100-\ Method 7402 (TEM).

3.9.5 Environmental Air Monitoring During Abatement

Until an exposure assessment is provided to the COR demonstrating that the product or material containing asbestos minerals, or the abatement involving such product or material, cannot release airborne asbestos fibers in concentrations exceeding 0.01 f/cc as a TWA under those work conditions having the greatest potential for releasing asbestos, environmental air monitoring shall be conducted at locations and frequencies that will accurately characterize any evolving airborne asbestos fiber concentrations. The monitoring shall be at least once per shift at location including, but not limited to, close to the work inside a regulated area; preabatement sampling locations; outside entrances to a regulated area; close to glovebag operations; representative locations outside of the perimeter of a regulated area; inside clean room; and at the exhaust discharge point of local exhaust system ducted to the outside of a containment (if used). If the sampling outside regulated area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, all work shall be stopped immediately, and the COR notified. The condition causing the increase shall be corrected. Work shall not restart until authorized by the COR.

3.9.6 Final Clearance Air Monitoring

Prior to conducting final clearance air monitoring, the Contractor and the COR shall conduct a final visual inspection of the regulated area where asbestos abatement has been completed. The certification of final cleaning and visual inspection appended herein shall be completed. Final clearance air monitoring shall not begin until acceptance of the Contractor's final cleaning by the COR. The Contractor's Designated IH shall conduct final clearance air monitoring using aggressive air sampling techniques as defined in \-EPA 560/5-85-024-\ or as otherwise required by federal or state requirements. The sampling and analytical method used will be \-NIOSH Pub No. 84-100-\ Method 7400 (PCM) and with confirmation of results by \-NIOSH Pub No. 84-100-\ Method 7402(TEM) (Table 3) _____.

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3.9.6.1 Final Clearance Requirements, NIOSH PCM Method

For PCM sampling and analysis using \-NIOSH Pub No. 84-100-\ Method 7400, the fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 total f/cc, the asbestos fiber concentration (asbestos f/cc) shall be confirmed from that same filter using \-NIOSH Pub No. 84-100-\ Method 7402 (TEM) at

Contractor's expense. If any confirmation sample result is greater than 0.01 asbestos f/cc, abatement is incomplete and recleaning is required. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.2 Final Clearance Requirements, EPA TEM Method

For EPA TEM sampling and analysis, using the EPA Method specified in 40 CFR 763-, abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, the 3 blank samples shall be analyzed. If the three blank samples are greater than 70 S/mm, resampling is required. If less than 70 S/mm, the five outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination can be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and recleaning is required. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.3 Air Clearance Failure

Should clearance sampling results fail to meet the final clearance requirements, the Contractor shall pay all costs associated with all required recleaning, resampling and analysis until final clearance requirements are met.

3.9.7 Air-Monitoring Results and Documentation

Air sample fiber counting shall be completed and results provided within 24 hours (breathing zone samples), and 24 hours (environmental/clearance monitoring) after completion of a sampling period. The COR shall be notified immediately of any airborne levels of asbestos fibers in excess of established requirements. Written sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by testing laboratory analyst, testing laboratory principal and the Contractor's Designated IH. The air sampling results shall be documented on a Contractor's daily air monitoring log. The daily air monitoring log shall contain the following information for each sample:

- a. Sampling and analytical method used;
- b. Date sample collected;
- c. Sample number;
- d. Sample type: BZ = Breathing Zone (Personal), P = Preabatement, E = Environmental, C = Abatement Clearance;
- e. Location/activity/name where sample collected;
- f. Sampling pump manufacturer, model and serial number, beginning flow rate, end flow rate, average flow rate (L/min);
- g. Calibration date, time, method, location, name of calibrator, signature.
- h. Sample period (start time, stop time, elapsed time (minutes));
- i. Total air volume sampled (liters);
- j. Sample results _____;

k. Laboratory name, location, analytical method, analyst, confidence level. In addition, the printed name and a signature and date block for the Industrial Hygienist who conducted the sampling and for the Industrial Hygienist who reviewed the daily air monitoring log verifying the accuracy of the information.

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1. _____ Not used.

3.10 CLEARANCE CERTIFICATION

When asbestos abatement is complete and all ACM waste is removed from the regulated areas, and final clean-up is completed, the COR will certify the areas as safe before the warning signs and boundary warning tape can be removed. After final clean-up and acceptable airborne concentrations are attained, but before the HEPA unit is turned off and the containment removed, the Contractor shall remove all pre-filters on the building HVAC system and provide new pre-filters. The Contractor shall dispose of such filters as asbestos contaminated materials. HVAC mechanical, and electrical systems shall be re-established in proper working order. The Contractor and the COR will visually inspect all surfaces within the containment for residual material or accumulated debris. The Contractor shall reclean all areas showing dust or residual materials. The COR will certify in writing that the area is safe before unrestricted entry is permitted. The Government will have the option to perform monitoring to certify the areas are safe before entry is permitted.

3.11 CLEANUP AND DISPOSAL

3.11.1 Title to ACM Materials

ACM material resulting from abatement work, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified and in accordance with applicable federal, state and local regulations.

3.11.2 Collection and Disposal of Asbestos

All ACM waste including contaminated wastewater filters, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing, shall be collected and placed in leak-tight containers such as double plastic bags ; sealed double wrapped polyethylene sheet; sealed fiberboard boxes; or other approved containers. Waste within the containers shall be wetted in case the container is breached. Asbestos-containing waste shall be disposed of at an EPA, state and local approved asbestos landfill and off Government property. For temporary storage, sealed impermeable containers shall be stored in an asbestos waste load-out unit or in a storage/transportation conveyance (i.e., dumpster, roll-off waste boxes, etc.) in a manner acceptable to and in an area assigned by the COR. Procedure for hauling and disposal shall comply with 40 CFR 61 Subpart M, state, regional, and local standards.

3.11.3 Scale Weight Measurement

Scales used for measurement shall be public scales. Weighing shall be at a point nearest the work at which a public scale is available. Scales should be standard truck scales of the beam type and shall be equipped with the type registering beam and an "over and under" indicator and be capable of accommodating the entire vehicle. Scales shall be tested, approved and sealed by an inspector of the State of Texas. Scales shall be calibrated and resealed as often as necessary and at least once every three months to insure continuous accuracy. Vehicles used for hauling ACM shall be weighed empty daily at such time as directed and each shall bear a plainly legible identification mark.

3.11.4 Weigh Bill and Delivery Tickets

Copies of weigh bills and delivery tickets shall be submitted to the COR during the progress of the work. The Contractor shall furnish the COR scale tickets for each load of ACM weighed and certified. These tickets shall include tare weight, identification mark for each vehicle weighed, date, time and location of loading and unloading. Tickets shall be furnished at the point and time individual trucks arrive at the worksite. A master log of all vehicle loading shall be furnished for each day of loading operations. Before the final statement is allowed, the Contractor shall file with the COR certified weigh bills and/or certified tickets and manifests of all ACM actually disposed by the Contractor for this contract.

3.11.5 Project Documentation and Asbestos Waste Shipment Record

The Contractor shall complete and provide the COR final completed copies of project document after project completion and prior to final payment. The Contractor shall complete and provide the COR the Waste Shipment Record for all shipments of waste material as specified in 40 CFR 61-\ Subpart M and other required state waste manifest shipment records within 3 days of delivery to the landfill. Each Waste Shipment Record shall be signed and dated by the generator, the waste transporter and disposal facility operator.

TABLE 1

WORK TASK DATA ELEMENTS

1. LOCATION OF WORK TASK: Building No. 578, First Floor, Area Numbers 2, 3, 4, and 7 (area numbers designated according to drawing sheet H-1 of 1). (**Remarks:** The RFP Contractor shall revise the area numbers if demolition areas changes on architectural, mechanical, and electrical demolition plans.)
2. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: Floor Tile and Mastic
Type of Asbestos: Chrysotile
% asbestos content: see survey result on sheet H-1 of 1
3. ABATEMENT TECHNIQUE TO BE USED: To be specified in the abatement Contractor's Asbestos Hazard Abatement Plan.
4. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK : CLASS II (**Remarks:** If TSI and surfacing materials are discovered as cited in para. 1.3.2 Unexpected Discovery of Asbestos, the Contractor shall require to abate ACM in accordance with OSHA Class I asbestos Work requirement.)
5. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK:
Non-friable Category I
6. FORM: IA and CONDITION OF ACM: GOOD
7. ABATEMENT QUANTITY : Drawing Sheet No. H-1 of 1 shown abatement quantities at preliminary design. (**Remarks:** The RFP Contractor shall revise quantities and other changes as deemed necessary on sheet No. H-1 of 1 according to architectural, mechanical, and electrical demolition plans.)
8. PHASING REQUIREMENT: Reference paragraph 1.3 DESCRIPTION OF WORK.

NOTES:

- (1) Specific location of work (building, floor, area)
- (2) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (3) See above.
- (4) Class designation: Class I, II, III, or IV (OSHA designation).
- (5) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (6) Form: Interior Architectural = IA; EA = Exterior Architectural; Mechanical/Electrical = ME Condition: Good = G; Fair = F; Poor = P
- (7) Quantity of ACM in metric units (i.e. square meters).

TABLE 2

FORMULA FOR CALCULATION OF THE 95 PERCENT CONFIDENCE LEVEL
(Reference: NIOSH 7400)

$$\text{Fibers/cc(01.95 percent CL)} = X + [(X) * (1.645) * (CV)]$$

Where: $X = ((E)(AC))/((V)(1000))$

$$E = ((F/Nf) - (B/Nb))/Af$$

CV = The precision value; 0.45 shall be used unless the analytical laboratory provides the COR with documentation (Round Robin Program participation and results) that the laboratory's precision is better.

AC = Effective collection area of the filter in square millimeters

V = Air volume sampled in liters

E = Fiber density on the filter in fibers per square millimeter

F/Nf = Total fiber count per graticule field

B/Nb = Mean field blank count per graticule field

Af = Graticule field area in square millimeters

$$\text{TWA} = C1/T1 + C2/T2 = Cn/Tn$$

Where: C = Concentration of contaminant

T = Time sampled.

TABLE 3

NIOSH METHOD 7400

PCM ENVIRONMENTAL AIR SAMPLING PROTOCOL (NON-PERSONAL)

| Sample Location | Minimum No. of Samples | Filter Pore Size (Note 1) | Min. Vol. (Note 2) (Liters) | Sampling Rate (liters/min) |
|---|------------------------|----------------------------|-----------------------------|----------------------------|
| Inside Abatement Area | 5/140 Square Meters | 0.45 microns (Notes 3 & 4) | 1500 | 2-10 |
| Each Room in Abatement Area Less than 140 Square meters | 1 | 0.45 microns | 1500 | 2-10 |
| Field Blank | 2 | 0.45 microns | 0 | 0 |
| Laboratory Blank | 1 | 0.45 microns | 0 | 0 |

Notes:

1. Type of filter is Mixed Cellulose Ester.
2. Ensure detection limit for PCM analysis is established at 0.005 fibers/cc.
3. One sample should be added for each additional 140 square meters. (The corresponding I-P units are 5/1500 square feet).
4. No less than 5 samples are to be taken per abatement area, plus two field blanks.

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CERTIFICATION OF FINAL CLEANING AND VISUAL INSPECTION

Per Table 1 Work Task Data Elements

In accordance with the cleaning and decontamination procedures specified in the Contractor's Asbestos Hazard Abatement Plan and this Contract. The Contractor hereby certifies that he/she has thoroughly visually inspected the decontaminated regulated area (all surfaces, including pipes, beams, ledges, wall, ceiling, floor, decontamination units, etc.) In accordance with ASTM E1368, Standard Practice for Visual Inspection of Asbestos Abatement Projects, and has found no dust, debris, or asbestos-containing material residue.

Contractor's signature _____ Date _____

Print name and title _____

Contractor's On-site Supervisor signature _____ Date _____

Print name and title _____

Contractor's Industrial Hygienist signature _____ Date _____

Print name and title _____

COR'S REPRESENTATIVE ACCEPTANCE OR REJECTION

The COR's Representative hereby determines that the Contractor has performed final cleaning and visual inspection of the decontaminated regulated work area (all surfaces including pipes, beams, ledges, wall, ceiling, floor, decontamination units, ect.) And by quality assurance inspection, finds the Contractor's final cleaning to be:

_____ Acceptable

_____ Unacceptable, Contractor instructed to reclean the regulated area

COR's Representative

Signature _____ Date _____

Print name and title _____

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME _____ CONTRACT NO. _____

PROJECT ADDRESS _____

CONTRACTOR FIRM NAME _____

EMPLOYEE'S NAME _____, _____, _____, _____-_____
 (Print) (Last) (First) (MI) Social Security Number

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH TYPES OF LUNG DISEASE AND CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS, THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NONSMOKING PUBLIC.

Your employer's contract for the above project requires that you be provided and you complete formal asbestos training specific to the type of work you will perform and project specific training; that you be supplied with proper personal protective equipment including a respirator, that you be trained in its use; and that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required personal protective equipment. These things are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you. The Contractor's Designated Industrial Hygienist will check the block(s) for the type of formal training you have completed. Review the checked blocks prior signing this certification.

FORMAL TRAINING:

_____ a. For Competent Persons and Supervisors: I have completed EPA's Model Accreditation Program (MAP) training course, "Contractor/Supervisor" that meets this State's requirements.

b. For Workers:

_____ (1) For OSHA Class I work: I have completed EPA's MAP training course, "Worker" that meets this State's requirements.

_____ (2) For OSHA Class II work (where there will be abatement of more than one type of Class II materials i.e. roofing, siding, floor tile, etc.): I have completed EPA's MAP training course, "Worker" that meets this State's requirements.

(3) For OSHA Class II work (there will only be abatement of one type of Class II material):

_____ (a) I have completed an 8-hour training class on the elements of \-29 CFR 1926-\ Section .1101(k)(9)(viii) in addition to the specific work practices and engineering controls of \-29 CFR 1926-\ Section .1101(g) and hands-on training.

_____ (b) I have completed EPA's MAP training course, "Worker" that meets this State's requirements.

_____ (4) For OSHA Class III work: I have completed at least a 16-hour course consistent with EPA requirements for training of local education agency maintenance and custodial staff at \-40 CFR 763-\ Section .92(a)(2) and the elements of \-29 CFR 1926-\ Section .1101(k)(9)(viii) in addition to the specific work practices and engineering controls at \-29 CFR 1926-\ Section .1101 and hands-on training.

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____ (5) For OSHA Class IV work: I have completed at least a 2-hr course consistent with EPA requirements for training of local education agency maintenance and custodial staff at \-40 CFR 763-\ (a)(1) and the elements of \-29 CFR 1926-\ Section .1101(k)(9)(viii) in addition to the specific work practices and engineering controls at \-29 CFR 1926-\ Section .1101(g) and hands-on training.

____ c. Workers, Supervisors and the Designated Competent Person: I have completed annual refresher training as required by EPA's MAP that meets this State's requirements.

PROJECT SPECIFIC TRAINING:

____ I have been provided and have completed the project specific training required by this Contract. My employer's Designated Industrial Hygienist and Designated Competent Person conducted the training.

RESPIRATORY PROTECTION:

____ I have been trained in accordance with the criteria in the Contractor's Respiratory Protection program. I have been trained in the dangers of handling and breathing asbestos dust and in the proper work procedures and use and limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair and contact lens use policy of my employer.

RESPIRATOR FIT-TEST TRAINING:

____ I have been trained in the proper selection, fit, use, care, cleaning, maintenance, and storage of the respirator(s) that I will wear. I have been fit-tested in accordance with the criteria in the Contractor's Respiratory Program and have received a satisfactory fit. I have been assigned my individual respirator. I have been taught how to properly perform positive and negative pressure fit-check upon donning negative pressure respirators each time.

MEDICAL EXAMINATION:

____ I have had a medical examination within the last twelve months which was paid for by my employer. The examination included: health history, pulmonary function tests, and may have included an evaluation of a chest x-ray. A physician made a determination regarding my physical capacity to perform work tasks on the project while wearing personal protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. My employer's Industrial Hygienist evaluated the medical certification provided by the physician and checked the appropriate blank below. The physician determined that there:

____ were no limitations to performing the required work tasks.

____ were identified physical limitations to performing the required work tasks.

Date of the medical examination _____

Employee Signature _____ date _____

Contractor's Industrial Hygienist Signature _____ date _____

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SECTION 02091 - LEAD-CONTAINING PAINT (LCP) WORKER PROTECTION PLAN

PART

1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910 Occupational Safety and Health Standards.

29 CFR 1926 Safety and Health Regulations for Construction.

ENGINEERING MANUALS (EM)

EM 385-1-1 (1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual.

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted.

SD-01 Data\

Equipment List\; *FIO*\.

A list of equipment items to be used in the work, including brand names, model, capacity, performance characteristics, quantities and other pertinent information.

SD-08 Statements\

Worker Protection Plan\; *GA*\.

The Contractor shall prepare a detailed Worker Protection Plan based on the X-Ray Fluorescent Screening results (as shown on drawing sheet H-1 of 1) and the (architectural, mechanical, and electrical) demolition plans. This plan shall identify the work procedures, health, and safety measures to be used while performing work which may penetrate or disturb paint. The plan shall address the methods to be undertaken to minimize the hazards to workers during project execution. It shall at least include the following key elements:

a. Methods of disturbing lead-containing paint;

b. Notification of occupants in adjacent work areas of proposed work schedules;

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- c. Worker protection training requirements as specified in 29 CFR 1926.62;
- d. Methods of minimizing exposure to lead dust, i.e. dust control and wetting agent to be used;
- e. Personnel protective equipment; respiratory protection program, and controls.
- f. Hygiene facilities and practices;
- g. Engineering controls and safety measures;
- h. Worker exposure assessment procedures, i.e. personal air monitoring, name of analytical laboratory, and air monitoring technician;
- i. Housekeeping; and
- j. Medical surveillance.

Accident Prevention Plan\; *GA*\.

Accident Prevention Plan (APP) shall be prepared and submitted in accordance with paragraph 1.10 ACCIDENT PREVENTION PLAN. The APP shall include preparation and submittal of the Activity Hazard Analysis (AHA) for each major phase of work prior to that particular phase of work.

SD-09 Reports\

Sampling Result\; *FIO*\.

A log of the personal air sampling test results shall be reviewed and submitted, in writing, no more than 48 hours after completion of the sampling cycle. The log shall list each sample result, sampling time and date, sample type, identification of personnel monitored, flow rate and duration, air volume sampled, yield of lead, cassette size, analytical method used, analyst's name, laboratory (independent of the Contractor) current state license, and interpretation of results. Results shall be reported in micrograms of lead per cubic meter ($\mu\text{g}/\text{m}^3$) of air.

SD-13 Certificates\

Quality Assurance\; *GA*\.

Certificates shall meet the requirements of paragraph QUALITY ASSURANCE. The statements shall be signed and dated by a certifying officer after the award of this contract and contain the following:

- a. Contractor's name and address.
- b. Project name and location.
- c. The specified requirements that are being certified.

1.3 QUALITY ASSURANCE

1.3.1 Qualifications

a. Contractor: Certification that the Contractor has prior experience on projects similar in nature and extent to ensure the capability to perform the work in a satisfactory manner and minimize worker and occupant exposures.

b. Competent Person: Certification that the Contractor's full-time onsite Competent Person meets the competent person requirements of 29 CFR 1926.62 and is experienced in administration and supervision of similar projects, including work practices, protective measures for building and personnel, disposal procedures, etc.

c. Testing Laboratory: The name, address, and telephone number of the independent testing laboratory selected to perform personal air sampling and analysis. Documentation that the laboratory performing the analysis is an EPA National Lead Laboratory Accreditation Program (NLLAP) accredited laboratory and that it is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT). Certification shall include accreditation for heavy metal analysis, list of experience relevant to analysis of lead in air, and a Quality Assurance and Quality Control Program. Currently, the American Association for Laboratory Accreditation (ASLA) and the American Industrial Hygiene Association (AIHA) are the EPA recognized laboratory accreditors. Documentation shall include the date of accreditation or reaccreditation.

d. Blood Lead Testing Laboratory. The name, address and telephone number of the blood lead testing laboratory; the laboratory's listing by OSHA and the U.S. Public Health Service Center for Disease Control (CDC); and documentation that the laboratory certified in the state where the work site is located.

1.3.2 Respiratory Protection Devices

Manufacturer's certification of NIOSH or the Mine Safety and Health Administration (MSHA) approval for respiratory protection devices to be utilized on the site.

1.3.3 Cartridges, Filters, and Vacuum Systems

Manufacturer's certification of NIOSH approval of respirator cartridges.

1.3.4 Medical Records

As required by 29 CFR 1926.62 and by the state and local regulations, employees who are involved in LBP disturbance work and may be required to receive a medical examination will provide certification of such examination, including biological monitoring. Records shall be retained, at Contractor expense, in accordance with 29 CFR 1910.20.

1.3.5 Training

Training shall meet the requirements of 29 CFR 1926.62 and 29 CFR 1926.59. Training shall be provided prior to the time of job assignment. Training may be an awareness training focusing on the disturbance methods specified in the Contractor's Worker Protection Plan. Training certification shall

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be provided prior to the start of work, for all workers, supervisors and Competent Person.

Project specific training shall be conducted prior to the start of the disturbance work. This training shall review the specific disturbance methods and protection of the workers as outlined in the Contractor's Worker Protection Plan.

1.4 DESCRIPTION OF WORK

This section describes the procedures and equipment required to protect workers and occupants from lead dust exposure during renovation of Building No. 578 at Brooks Air Force Base, San Antonio, Texas. X-Ray Fluorescent (XRF) Analysis was performed on painted surfaces of proposed renovation areas and results are shown on sheet no. H-1 of 1. These surfaces were found to contain lead levels below the HUD threshold. In accordance with 29 CFR 1926.62, worker protection is required when disturbance is made to a painted surface which contains any amount of lead, unless air monitoring indicates that the airborne level for lead is below the Action Level of 30 ug/m³. The Contractor shall submit exposure assessment data for the Contracting Officer's review and approval, _____ prior to starting renovation work, _____.

Protection of worker shall be implemented during disturbance of painted surface at all phases of renovation including the new location for the Virtual Reality Lab.

The Contractor shall characterize the lead contaminated debris for disposal. A representative sample of the debris shall be obtained for every 40 cubic meters (50 cubic yard) of debris and tested for Toxicity Characteristic Leaching Procedure (TCLP)-lead. From past projects, low XRF readings (range from 0.0 to 0.4 mg/cm²) will generate debris with TCLP-lead level equal to or less than 1.5 mg/l (which is a Class II waste). Class II waste shall be disposed of at a Type I municipal solid waste landfill, Type I-AE or Type IV landfill.

1.5 SITE VISIT

The Contractor shall visit, investigate the site, review the drawings (both environmental and demolition drawings) with specifications, and become familiar with conditions which will affect the work.

1.6 PROTECTION OF EXISTING WORK TO REMAIN

Disturbance, storage, transportation, and disposal work shall be performed without damaging or contaminating adjacent areas. Where such areas are damaged or contaminated, the Contractor shall restore area to the original condition.

1.7 COORDINATION WITH OTHER WORK

Disturbance and disposal work shall be coordinated with existing work and/or concurrent work being performed in adjacent areas.

1.8 SAFETY AND HEALTH REGULATORY REQUIREMENTS

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Work shall be performed in accordance with requirements of EM 385-1-1 and applicable regulations including, but not limited to 29 CFR 1910, 29 CFR 1926, especially Section .62. Matters of interpretation of the standards shall be submitted to the appropriate agency for resolution before starting work. Where these requirements vary, the most stringent shall apply.

1.9 PRECONSTRUCTION SAFETY MEETING

The Contractor and Competent Person shall attend a preconstruction safety meeting prior to starting any work in this section. Items required to be submitted will be reviewed for completeness, and where specified, for acceptance.

1.10 ACCIDENT PREVENTION PLAN

1.10.1 Preparation and Implementation

The Accident Preparation Plan (APP) shall be prepared in accordance with EM 385-1-1, Appendix A. Where a topic in the Appendix A is not applicable, the APP shall justify its omission or reduced level of detail, and establish that adequate consideration was given to the topic. The APP shall cover onsite work by the Contractor or subcontractors. The Competent Person shall be responsible for development, implementation, and quality control of the content and actions required in the APP. For each anticipated work task, the APP shall establish hazards and control measures. The APP shall be easily readable and understandable by the Contractor's work force.

1.10.2 Acceptance and Modifications

The APP shall be prepared, signed and dated by the Contractor's Competent Person and submitted 10 working days prior to the preconstruction safety conference. Deficiencies in the APP shall be discussed at the Preconstruction Safety Conference and the APP shall be revised to correct the deficiencies, and resubmitted for acceptance. Onsite work shall not begin until the APP has been accepted unless otherwise authorized by the Contracting Officer Representative (COR). One copy of the APP shall be maintained in the Contractor's jobsite file, and a second copy shall be posted where it will be accessible to personnel on the site. As work proceeds, the APP shall be adapted to new situations and conditions. Changes to the APP shall be made with concurrence of the Competent Person and Site Superintendent, and acceptance of the COR. Should an unforeseen hazard become evident during performance of the work, the Competent Person shall bring such hazard to the attention of the Superintendent and the COR, both verbally and in writing, for resolution as soon as possible. In the interim, the Contractor shall take necessary action to re-establish and maintain safe working conditions; and to safeguard onsite personnel, visitors, the public, and the environment. Disregard for provisions of this specification, or the accepted APP shall be cause for stopping of work until the matter is rectified.

1.10.3 Activity Hazard Analyses

An Activity Hazard Analysis (AHA) shall be prepared prior to beginning each major phase of the work and submitted for review and acceptance.

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Format shall be in accordance with EM 385-1-1, Figure 1-1. A major phase of work is defined as an operation involving hazards not experienced in previous operations, or where a new work crew is to perform. The analysis shall define the activities and the sequence in which they are to be performed, specific hazards anticipated, and control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the Activity Hazard Analysis has been accepted and a preparatory meeting has been conducted by the Contractor to discuss content of the AHA with everyone engaged in the activity, including the Government's onsite representative. The AHA shall be continuously reviewed and modified when appropriate to address changing conditions or operations. The accepted AHA shall be appended to and become part of the APP.

1.11 RESPIRATORY PROTECTION PROGRAM

A respiratory protection program shall be established as required by 29 CFR 1926.62 and in accordance with 29 CFR 1926.103 and 29 CFR 1910.134. An approved respirator shall be furnished to each employee and visitor required to enter a work control area. A fit test shall be conducted in accordance with 29 CFR 1926.62, Appendix D.

1.12 HAZARD COMMUNICATION PROGRAM

A Hazard Communication Program shall be implemented in accordance with 29 CFR 1926.59.

1.13 SAFETY AND HEALTH OVERSIGHT

The Competent Person shall be the onsite person responsible for coordination, safety, security and execution of the work. The Competent Person shall be able to identify existing and predictable lead hazards and shall have the authority to take corrective measures to eliminate them.

1.14 PREPARATORY INSPECTION MEETING

The Contractor and COR shall arrange and hold a preparatory inspection meeting immediately prior to beginning work. The APP, Activity Hazard Analyses, and the Contractor's Worker Protection Plan, will be reviewed for completeness.

1.15 TRAINED AND COMPETENT PERSONNEL

Work shall be performed by persons, qualified and trained in work to be performed in this section, monitoring, and disposal of debris, and in subsequent cleanup of the affected environment. Workers shall comply with the appropriate Federal, state, and local regulations which mandate work practices, training, and capability of performing the work under this contract.

1.16 POSTED WARNINGS AND NOTICES

Two copies of applicable Federal, state, and local regulations shall be maintained. One copy shall be available at the work site and one copy shall be file in the project office. The following warnings and notices

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shall be posted at the work site in accordance with 29 CFR 1926 Section .62.

1.16.1 Limited Access

Access to the work control areas shall be limited to trained and properly protected workers and visitors until air monitoring results indicate the levels are below the Action Level of 30 ug/m³ per 29 CFR 1926.62. Signs shall be located at a distance from the work control areas that will allow personnel to read the sign and take the necessary protective actions required before entering the work control area.

1.16.2 Worker Information

Right-to-know notices shall be placed in clearly visible areas of the work site in compliance with Federal, state, and local regulations.

1.16.3 Air Monitoring Results

Daily air monitoring results shall be prepared so as to be easily understood by the workers, and shall be available at the work site.

1.16.4 Emergency Telephone Numbers

A list of telephone numbers shall be posted at the site. The list shall include numbers of the local hospital, emergency squad, police and fire departments, Government and Contractor representatives who can be reached 24 hours per day, and professional consultants directly involved in the project.

1.17 PERSONAL PROTECTIVE EQUIPMENT (PPE)

1.17.1 Respiratory Protection

Respirators required for worker protection during this project as approved by NIOSH for such use shall be determined by the Competent Person. Respirators shall comply with the requirements of 29 CFR 1926.62 and shall be used in accordance with 29 CFR 1926.103 and 29 CFR 1910.134. The Contractor shall provide sufficient cartridges at the work site for employees and authorized visitors. Cartridges shall be replaced according to the manufacturer's recommendations. List of PPE shall be specify in the Contractor's Worker Protection Plan.

1.17.2 Protective Clothing

The Contractor shall furnish, at no cost to personnel, equipment/clothing for protection from airborne lead dust. An adequate supply of these items shall be available for worker. Protective clothing and equipment shall not be removed from the work site by workers or visitors. List of protective clothing shall be specify in the Contractor's Worker Protection Plan.

1.18 DUST SUPPRESSION

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When performing work described in this section, dust suppression methods to minimize airborne lead dust shall be used. The method of dust suppression shall be described in the Contractor's Worker Protection Plan.

1.19 STORAGE OF MATERIALS

Materials shall be stored in a place and manner which protects them from damage and contamination. Stored materials shall not present a hazard or an inconvenience to workers, visitors, and/or other occupants and employees of the building.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 WORK PROCEDURES

Work that disturbs paint and other related work shall be performed in accordance with the accepted Contractor's Worker Protection Plan. Procedures and equipment required to limit occupational exposures to lead when paint is to be disturbed shall be in accordance with 29 CFR 1926.62, and as specified herein.

3.1.1 Personnel Protection Procedures

Personnel shall wear and use protective clothing and equipment as specified in the Contractor's Worker Protection Plan. Eating, smoking, drinking, chewing tobacco and chewing gum, and applying makeup shall not be permitted in work control area. Electrical service shall be disconnected when work area is wet, and temporary electrical service protected by a ground fault circuit interrupter shall be provided.

3.1.2 Safety and Health Procedures and Responsibilities

The Competent Person shall be present at the work site throughout the project to supervise, and document the project's health and safety provisions. A daily log shall be maintained documenting the progress of the work, results of sampling tests, and level of worker protection throughout the project area. The Competent Person shall verify that the Contractor's Worker Protection Plan is implemented and followed.

3.1.3 Engineering Controls

3.1.3.1 Hand Wash Station Procedures

An operational hand washing station shall be provided to the workers for washing their hands and face whenever exiting the work area and before eating, drinking or smoking. Workers shall aware of hygiene practices prior to start any work. The Contractor shall obtain written approval from COR to set up wash station using existing rest room facility in the building at the Preconstruction Safety Meeting.

3.2 MONITORING

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During the paint disturbance activities, a Competent Person shall be onsite directing the work to ensure that the health and safety requirements of this contract are satisfied.

3.2.1 Personal Air Monitoring

Airborne concentrations of lead shall be collected and analyzed in accordance with 29 CFR 1926.62. Results shall be reported in micrograms per cubic meter of air. This monitoring shall be used to verify the need and/or adequacy of PPE and to determine if proper work practices are being employed. The COR shall be notified if any personal air monitoring result equals or exceeds 30 micrograms per cubic meter (ug/m^3) of air.

3.3 CLEANUP AND DISPOSAL

3.3.1 Daily Cleanup

Maintain the work control area free of visible airborne dust and accumulations of debris. Daily cleanup of the work area is required. Dry sweep or compressed air shall not be used.

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SECTION 02300 - ARCHITECTURAL DESIGN REQUIREMENTS

PART

I. - GENERAL

1.1 DESCRIPTION

This project will provide new construction for an addition to, as well as rehab of an existing building at Brooks Air Force Base, San Antonio, Texas. The resulting facility will house administrative offices and a computer room. It will also provide proper space for laboratories, including Scientific Testing Lab (Textiles Lab, Metalurgical Lab, Dimensional Lab, Chemical Lab and Non-destructive Inspection (NDI or X-Ray Lab, as well as Chiefs offices and toilets)). Additionally, it will provide for Life Sciences Lab and training facilities (which include warehouse areas, secure storage, a photo studio and darkroom, analysis areas, cleaning rooms, a library, a microscopy room, offices, training rooms and toilets. The project consists of remodelling portions of the first floor of an existing two story building (Bldg. 578), a small annex thereto, and constructing an addition to the building. The remodelled spaces are located in the west end of Building 578, as well as the computer room and tape storage vault on the east end.

1.1.1 - Computer Room - Insure the electrical and mechanical connections are facilitated within the existing, raised floor space.

1.1.2 - Tape Storage Vault - Provide power, telephone and data connections for fifteen pre-wired work stations, to be installed by others. Work stations will each house one (1) person and accompanying files and equipment.

1.1.3 - Administrative Offices - Provide space in the west end of Bldg. 578 for sixty-five persons, in pre-wired work stations to be installed by others, as indicated in the floor plan. Allow cubicle office space of 24.2 SM (260 SF) for Lt. Col. and secretary 16.7 SM + 7.4 SM (180 SF + 80 SF), respectively. Also, allow three 9.3 SM (100 SF) cubicle offices for Major/GS/GM-13 managers and 60 cubicle work stations of 7.4 SM (80 SF) each. Power, data and telephone connections shall be routed under floor and up to work stations. Existing stud and CMU walls must be demolished to effect the work described herein. However, no structural elements, such as columns, fire proofing, etc. shall be affected. NOTE: The existing floor covering in this area is direct glued carpet tiles over vinyl tiles, on concrete slab, as noted in the environmental section of this RFP. Address repairing all damage to non-affected elements.

1.1.3.1 - Furniture and pre-wired work stations for Tape Storage Vault and Administrative Offices shall be designed by AE Contractor, using standard product lay outs, in accordance with user determined needs, within established furniture budgetary constraints and in accordance with General Services Administration (GSA) requirements. Contractor shall give right of first refusal for work of providing furniture and pre-wired work stations from U. S. Department of Justice, UNICOR Federal Prison Industries.

Sufficient time shall be allowed for UNICOR to review the design, to determine its capability to provide what is required in accordance with

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the design. After reviewing the design, UNICOR will determine its capability to provide. If capable of providing the requirements, UNICOR will be the sub contractor for the CID package. If, and only if UNICOR is not able to provide, contractor shall provide CID package from another source, after obtaining a written waiver from UNICOR.

1.1.4 - Existing Latrines - The latrines (Men's and Women's) adjacent to the air handler room at the west end, shall be demolished and remodelled to allow for compliance with Americans with Disabilities Act (ADA) and Uniform Federal Accessibility Standards (UFAS). This will also require demolition of the small conference room next door to the Mens Latrine. A janitor's closet will replace that room.

1.1.5 - Mechanical, Electrical and Communications Rooms - Provide rooms with areas of 46 sm (500 sf), 9 sm (100 sf) and 7.4 sm (80 sf), respectively. Provide appropriate room for electrical equipment and monitoring/communication devices. Refer to Section 02600 MECHANICAL DESIGN REQUIREMENTS and Section 02800 ELECTRICAL DESIGN REQUIREMENTS.

1.1.6 - Restrooms - Provide public, wheel chair accessible restrooms for men and women, as indicated in the floor plan.

1.1.7 - Vending Areas - provide space for 2 to 3 vending machines, a cabinet for microwave oven and a sink with hot and cold water and a drain, for coffee bar. Provide 110 VAC receptacles in accordance with SECTION 2800. Vending area shall be located as indicated in the floor plan.

Amd #2 1.1.8 - Scientific Testing Lab - Provide roof height throughout this area to allow for a 4.3 M (14)' ceiling height, as required. This lab shall be comprised of four labs, as follows: Textiles Lab, Chemical Lab, NDI Lab and Metallurgy lab. The suspended ceiling height throughout the Scientific Testing Lab shall be 3 M (10') unless otherwise noted. All doors in this area shall have half vision panels, unless otherwise noted.

Amd #2 1.1.8.1 - Textiles Lab - This lab shall be comprised of five rooms, as follows. Provide a ceiling 4.3 M (14') A.F.F., in all five rooms within the Textiles Lab. For specific requirements of each lab refer to the Textiles Laboratory equipment listing and layout, located in the Attachments Section to this RFP.

Amd #2 1.1.8.1.1 - Parachute Room - Area: Approximately 197 SM (2122 SF). This room shall be 30 M (100') long, minimum. Requirements are for a long table, by others. This table will be approximately 24.5 - 26 M (80' - 85') long by .914 M (3') wide. It will be used to lay parachutes out on for folding and packing, etc. Provide a cabinet with countertop, water, sink and drainage adjacent to the short wall work bench. Provide a 1.8 M (6') wide x 2.13 M (7') high double door in one short wall and 1.2 M (3') wide x 2.13 M (7') high single doors into each of the adjoining rooms and into the toilet/ telephone areas at the end of the room. Provide a controlled

environment with temperature of 70 degrees F +/-2 degrees (21.1 degrees C +/- 1.1 degrees with R.H. =65% +/-2%. Secure exterior doors with cypher key pad hardware. Insure architecturally signifant entrance at south door of Parachute room.

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- Amd #2 1.1.8.1.2 - Mechanical Testing Room - Area: Approximately 52.1 SM (560 SF), minimum. Provide suspended acoustical tile ceiling at 4.3 M (14') AFF. Provide a 1.83 M wide x 2.13 M high (6'-0" x 7'-0") double door into the Textiles Testing Room.
- Amd #2 1.1.8.1.3 - Textiles Testing Room - Area: Approximately 113 SM (1213 SF), minimum. Provide water and sinks with drains along walls and in the middle of the room for the work bench. Provide a safety shower on the wall between Textiles Testing and Mechanical Testing.
- Amd #2 1.1.8.1.4 - Storage Room - Area: Approximately 45.4 SM (490 SF). This room shall be 37.2 SM (400 SF), minimum. Provide floor to ceiling shelving units along the longer walls, 0.6M deep, with adjustable shelves.
- Amd #2 1.1.8.2 - Metallurgy Lab - Area: Approximately 135 SM (1450 SF). All doors, exterior and interior in this lab shall be 1.2 M wide x 2.1 M high (4' wide x 7' high), single doors, secured by cypher key pad hardware. Each door shall have a half glass, wired glass view panel, unless otherwise noted. Each of the four lab rooms within the metallurgy lab shall be 23.8 SM (256 SF), minimum net (4.9 M x 4.9 M) (16' x 16'). The smallest lab shall be the central hallway/layout room, which shall be minimum 1.83 M wide and shall extend the full length of the two lab rooms.
- Amd #2 1.1.8.2.1 - Scanning Electron Microscope (SEM) Room - Area: Approximately 27.9 SM (300 SF) - SEM will be provided by others. This room shall be completely shielded within the cavity of the walls for stray electronic, static electricity and magnetic activity that may disrupt or alter the efficiency of the SEM. Shielding shall reduce magnetic field to 3 micro tesla, max. Provide a reinforced, isolated slab, 0.6 M thick, for the SEM, itself, dampened to reduce vibration to a maximum of 3 microns peak to peak at a sine wave of 5 Hz frequency. Coordinate design and construction of this room with manufacturer's specifications for requirements for location as well as footprint of SEM. Provide water circulator valves to facilitate water transfer between SEM Room and Photo room. Provide air diffusers to insure air flow to eliminate turbulence above 2' above finished floor (A.F.F). Provide a controlled environment
- Amd #2 with temperature of 20 degrees C +/- 2.8 degrees C (68 Degrees F +/- 5 Degrees) with R.H. =/<50%. Provide 1.2 M wide x 2.1 M high solid core flush wood door (no view panel).
- Amd #2 1.1.8.2.2 - Photo Room - Area: Approximately 27.9 SM (300 SF) - Provide sink with tap water supply and deionized water. Provide silver trap on sink drain. Provide tap water to be recirculated through the SEM Room. Provide 1.2 M wide x 2.1 M high solid core flush wood door (no view panel).
- Amd #2 1.1.8.2.3 - Project Layout/Hallway - Area: Approximately 23.2 SM (250 SF) - Provide waterproof 120 VAC, 20A receptacle in floor by work bench.
- Amd #2 1.1.8.2.4 - General Lab Layout Room - Area: Approximately 27.9 SM (300 SF) - Provide eyewash, complete with water supply and drain, at the back end of work bench in middle of lab. Provide chemical station hoods with relocatable, articulating vents. Provide natural gas connection at each hood. Provide deionized water supply and tap water supply at sink at cutting and grinding machine. Provide effluent trap for pollutants from used sludge, coolants and etchants.

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- Amd #2 1.1.8.2.5 - Office/Storage Room - Area: Approximately 27.9 SM (300 SF) Provide sufficient lighting level and 120 VAC, 20A electrical receptacles. Provide telephone jacks and data connections. Insure provision of carpet, broadloom or tiles, for flooring.
- Amd #2 1.1.8.3 - Dimensional Lab - Area: Approximately 116 SM (1250 SF) - Provide specially designed slab to address especially heavy loading by portable granite slab equipment measuring tables, the heaviest of which is approximately 9070 kg (20,000 lbs). Special items of equipment for certain precision measurements are very tall, requiring a 3.78 M (12') high ceiling in that portion of the Dimensional Lab where the items will be located. Provide a controlled environment with positive pressure air flow, and with temperature of 68 degrees F +/- 1 degree F and R.H. of <50%. Provide airlocks at both doors to preclude intrusion of particulate matter. Provide 1.83 M wide x 2.13 M high (6' x 7'), button switch activated, double glass doors at each side of the exterior airlock and 3' wide x 7' high, button switch activated, glass doors at each side of the Parachute Room side airlock.
- Amd #2 1.1.8.4 - Non-Destructive Inspection (NDI) Lab - Area: Approximately 61.4 SM (660 SF) - X-Ray equipment will be provided by others. Within the lab shall be a 3.7 M x 3.7 M (12' x 12') X-ray room, which shall be completely lead shielded within the cavity of it's walls.
- Amd #2 1.1.8.5 - Chemical Lab - Area: Approximately 48.6 SM (523 SF). Provide controlled environment to include temperature of 22.8 degrees C +/- 2.8 degrees C (73 degrees F +/- 5 degrees F) with R. H. = 50% +/- 10%. Provide lighting and nine 110 VAC and four 220 VAC receptacles along walls, to provide power for lab equipment. Provide four data connections and two telephone jacks on walls. Provide access to compressed air, two locations. Provide natural gas connection and sink with hot/cold tap water and drainage in work bench adjacent to Lab Chief's office. Provide fume vent to exhaust fumes from optical emission spectrometer.
- Amd #2 1.1.8.6 - Scientific Testing Laboratory Chief's Office - Area: 11.1 SM (120 SF). Provide two data connections and two telephone jacks, one with FAX capability, on walls. Provide four 110 VAC receptacles.
- Amd #2 1.1.8.7 - Toilets - Area: Approximately 9 SM (97.5 SF). Insure easily maintainable surfaces, as identified in Para 5.8.
- Amd #2 1.1.9 - Life Sciences Lab - Provide a roof to allow for 5.5M (18') ceiling height throughout the Life Sciences Lab. However, unless noted otherwise, ceilings in administrative or office areas shall be at 2.74M (9') AFF; and other spaces shall be open to roof structure. Provide ambient lighting for safety throughout all open spaces. Provide cypher key pad locking hardware for all exterior personnel doors, for security. Provide a button activated buzzer or bell at the overhead door from the loading dock for announcement of arriving loads of materials or equipment. Provide negative air flow ventilation in the areas described by paragraphs 1.1.9.13 through 1.1.9.23, to preclude noxious fumes and offensive odors from migrating to offices and classroom areas of the facility. Provide a 1.5 SM wash rack at the northeast corner of the Life Sciences Lab, with environmentally safe drainage system, including traps, etc. Place rack near ramp at the north of the loading dock, on northeast corner of Life Sciences Lab.

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Amd #2 NOTE: The Life Sciences Equipment Lab is divided into two major sections. The dividing wall runs north and south through what is roughly the middle of the lab. This separates, generally the receiving and storage side from the analysis and training side. Provide a framed opening between the two sides, 2.44 M wide x 3.66 M high (8' x 12'), closed by strip-curtain, similar to weather proof curtains of clear vinyl strips. This curtain shall provide air separation, to prevent odors from migrating between the two sides of the lab.

Amd #2 1.1.9.1 - S.E. Asian Artifact Analysis Area - Area: Approximately 256 SM (2756 SF). Provide power receptacles, as well as telephone and data receptacles at each work station. Provide 3.6 M - 4.3 M (12' - 14') high partitions to support storage bins, as indicated in drawings. Insure daylight level balanced lighting within the analysis area.

Amd #2 1.1.9.2 - Korean Mission Area Artifact Analysis Area - Area: For the purpose of design, approximately 228 SM (2454 Sf). Provide power receptacles, as well as telephone and data receptacles at each work station. Provide 3.6 M - 4.3 M (12' - 14') high partitions to support storage bins, as indicated in drawings. Insure daylight level balanced lighting within the analysis area.

Amd #2 1.1.9.3 - Student/Visitor Briefing Display Area - Area: Approximately 63.2 SM (680 SF). Provide power receptacles. Provide ceiling mounted fluorescent lighting and incandescent highlighting, to provide daylight balanced lighting for the viewing and study of displays located along the wall and elsewhere in the room.

Amd #2 1.1.9.4 - Microscopy Room - Area: Approximately 42 SM (451 SF). Insure balanced lighting in a suspended ceiling within the room.

Amd #2 1.1.9.5 - Classroom/Conference Room - Area: Approximately 108 SM (1163 SF). Provide ceiling mounted fluorescent lighting and incandescent lighting, to insure daylight balanced lighting for the classroom. Provide wall washers and spotlights to highlight speakers and displays. Insure all systems are fully adjustable for lighting levels.

Amd #2 NOTE: Areas described in paragraphs 1.1.9.7 - 1.1.9.12 have daylight balanced lighting in a 2.7 M (9') high suspended ceiling.

Amd #2 1.1.9.6 - Technical Reference Library/Historians Office - Area: Approximately 51.2 SM (551SF). Ceiling height: 3.66M (12' AFF). Provide sufficient light for document research. Provide 110 VAC receptacles along walls and in locations in the floor, centrally located to allow for carrel lighting.

Amd #2 1.1.9.7 - Administrative Area/Office Room - Area: Approximately 40.4 SM (435 SF). Provide 110 VAC receptacles along walls. Provide ambient lighting level sufficient for the use of the room. Provide a minimum of one telephone jack in room. Insure at least one jack has FAX capability.

Amd #2 1.1.9.8 - Senior Lab Photographer's Office - Area: Approximately 9.5 SM (102SF). Provide 110 VAC receptacles along walls. Provide ambient lighting level sufficient for the use of the room. Provide a minimum of one telephone jack in room.

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- Amd #2 1.1.9.9 - Assistant Lab Photographer's Office - Area: Approximately 9.5 SM (102SF). Provide 110 VAC receptacles along walls. Provide ambient lighting level sufficient for the use of the room. Provide a minimum of one telephone jack in room.
- Amd #2 1.1.9.10 - Senior Equipment Analyst's Office/Meeting Area - Area: Approximately 19 SM (204SF). Provide 110 VAC receptacles along walls. Provide ambient lighting level sufficient for the use of the room. Provide a minimum of one telephone jack in room.
- Amd #2 1.1.9.11 - Life Science Laboratory Chief's Office - Area: Approximately 51.2 SM (551SF). Provide 110 VAC receptacles along walls. Provide ambient lighting level sufficient for the use of the room. Provide a minimum of one telephone jack in room. NOTE: Insure an architecturally significant entrance at the West entrance of the corridor , just outside Lab Chief's office.
- Amd #2 1.1.9.12 - Planning/Family Room - Area: Approximately 19 SM (204SF). Provide 110 VAC receptacles along walls. Provide ambient lighting level sufficient for the use of the room. Provide a minimum of one telephone jack in room.
- Amd #2 1.1.9.13 - Bio-Hazardous Cleaning Area - Area: Approximately 16.8 SM (181SF). Insure sufficiently filtered, negative air flow exhaust for the uses of this room.
- Amd #2 1.1.9.14 - Explosive Storage Room - Area: Approximately 12.3 SM (132 SF). Ceiling height: 4.88M (16' AFF). Insure compliance with 70SPS/SPAT letter, dated 18 Mar 97, attached to the Requirements and Management Plan (RAMP) for this project. Also, insure compliance with Brooks AFB, US Air Force, US Army Corps of Engineer Fire and Safety Regulations and OSHA regulations. Refer to requirements located in Attachment Section to this RFP. Also, provide a wheelchair accessible personnel door from the exterior dock area to the area adjacent to this
- Amd #2 area, to double as a fire exit. Provide walls and roof of this room to contain explosions from a maximum source of 46 kg (100 lbs).
- Amd #2 1.9.15 - Heavy Equipment and Cockpit Stand areas - Area:]Approximately 44.1 SM (475 SF). Address requirements for special floor support requirements due to especially high point loads from portable carts carrying heavy loads, that will be parked in this area.
- Amd #2 1.1.9.16 - Photographic Studio - Area: Approximately 73.8 SM (794 SF). Insure proper environmental conditions, including temperature, humidity, lighting levels and types of fixtures necessary for photographers to accomplish highly precision work for legal
- Amd #2 presentations. To accomplish this, walls shall be extended and sealed to underside of roof deck.
- Amd #2 1.1.9.17 - Dark Room - Area: Approximately 37.3 SM (401SF). Ceiling: 2.74M (9' AFF). Address the special darkroom light seal requirements, including the door. Also address darkroom sinks and plumbing, including hot/cold water supply, drains with silver traps, etc. Address light trapped fume exhaust fan with controls.
- Amd #2 1.1.9.18 - Photographic Equipment, Film, Chemicals Storage Room - Area: Approximately 18.8 SM (202 SF). Ceiling: 2.74M (9' AFF). Insure

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proper environmental conditions, including temperature and humidity necessary for photographic materials to be stored with no deterioration.

Amd #2 1.1.9.19 - Ultra-Sonic Cleaning Room - Area: Approximately 6.8 SM (73 SF). Provide 220 VAC receptacle, as well as 110 VAC, 20A receptacles. Insure lighting level sufficient to observe cleanliness of processed items. Provide Sink, with hot/cold water supply and drainage.

Amd #2 1.1.9.20 - Deep Sink Room - Area: Approximately 8.2 SM (88 SF). Provide deep sink for cleaning large items, with hot/cold water supply and drainage. Insure lighting level sufficient to observe cleanliness of washed items. Provide 110 VAC, 20A receptacles.

Amd #2 1.1.9.21 - Mishaps Training Area - Area: Approximately 157 SM (1693 SF). Provide 2.7 M (9') high partitions to surround training area, parachute packing area and movable racks, as indicated in drawings. Insure lighting level sufficient to inspect training items in the rooms.

Amd #2 1.1.9.22 - Secure Storage Area - Area: Approximately 93.6 SM (1008 SF) Provide woven wire fabric mesh walls, ceiling and door of sufficient strength to provide legally secure storage for items awaiting court procedures, etc. Walls and ceiling should be 4.3 M (14') high, minimum.

Amd #2 1.1.9.23 - Mishap Processing Area - Area: Approximately 51.2 SM (551SF). Insure a motor assisted overhead roll-up door from the loading dock to this area.

Amd #2 1.1.10 - Loading Dock, East side of the Facility - Area, for design purposes, 78.2 SM (842 SF); for programming purposes, 39.1 SM (421 SF). Provide a loading dock that is 3M - 3.7 M (10' - 12') wide along the east side of the Life Sciences Lab. Dock shall be sloped to drain away from the building. Provide a ramp near the Northeast corner of the Life Sciences Lab, at the north end of the loading dock, in accordance with ADA/UFAS requirements. This ramp will be used for wheelchair access, as well as for forklift access. Provide a truck well for one "18 Wheeler" type truck to have access to a 1.25 M (4') high dock. Provide a drain at the bottom of the truck well to carry away storm waters. Protect pedestrian traffic from falling accidents by installing a 0.15 M x 0.3 M (6" high x 1') thick curb, with pipe railing installed in accordance with OSHA and AFOSH regulations. The remainder of the dock shall allow pickup access (24" - 30" dock height). Provide commercially available dock bumpers to protect both the truck height high area as well as the pickup height area. Provide a stair, with OSHA and AFOSH approved pipe rails for access to the dock.

Amd #2 1.1.11 - Forklift/wheelchair accessible apron around the Textiles Labs - Provide a 3.7 M (12)' wide concrete apron, sloped away from the building to provide positive sheet drainage of rain water. Apron shall be designed for the loads common to these facilities.

1.2 - DEMOLITION

Amd #2 Demolition of a portion of the South exterior wall of Building 578 and interior walls, as shown in the demolition drawing, as well as interior walls adjacent to this wall will be necessary to accomplish the work of the construction. Demolish the Annex building (approximately 3,000 sf)

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to top of existing slab. Demolish all utilities in the Annex to minimum 6" below top of slab. Contractor shall remove electrical conductors from conduits back to panel. Drainage and supply plumbing shall be capped at first joint below top of slab, with holes in the slab filled to top of slab with concrete, finished to match surrounding surface. Any curbs shall be removed to or below top of slab. Slab shall be finished to match surrounding surface.

1.3 - CONSTRUCTION

Amd #2

The type of construction is permanent, Type II N (UBC), sprinklered, non-combustible. The building shall be concrete masonry units (CMU), steel frame as applicable, exterior face brick walls and standing seam metal roof system. Exterior face bricks and mortar shall match, as closely as possible, in texture, size and color, the corresponding surfaces of the existing facility refer to Section 02500 STRUCTURAL DESIGN REQUIREMENTS for foundation and superstructure. Interior partitions shall be CMU or gypsum board on steel studs, as required.

PART II. - CRITERIA REFERENCES

International Conference of Building Officials (ICBO)

ICBO UBC (1994) Uniform Building Code

U.S. Army Corps of Engineers Directorate of Military Programs

CEMP-E (1994) Architectural and Engineering Instructions

U.S. Air Force

HQ AFCESA/DFE (1994) Military Handbook 1008B - Fire Protection for Facilities

National Fire Protection Association (NFPA)

NFPA 101 (1994) Life Safety Code

Brooks Air Force Base, San Antonio, Texas

(1996) Requirements Document

City of San Antonio, Texas

(1996) San Antonio City Code

Brooks Air Force Base, San Antonio, Texas

Base Fire Marshall - Fire Protection Requirements

U.S. Army Corps of Engineers, Southwest Division, Fort Worth District

CEGS Guide Specifications

Brooks Air Force Base, San Antonio, Texas

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Architectural Compatibility Plan

Headquarters Air Force Center For Enviromental Excellence

Interior Design Presentation Format (1996)

Department of the Air Force Sign Standards

Air Force Pamphlet 88-40 (1982)

PART III. - DESIGN CRITERIA

3.1 - Exterior Activities: Drive access shall be provided as indicated in the Section 02200 GENERAL CIVIL DESIGN & SITE REQUIREMENTS.

- Sidewalks: Provided around the perimeter of the building for access to parking, and connection to other facilities.

3.2 - Exterior Finishes/Colors: The following items represent a list of government approved colors which shall be used to ensure compatibility with adjacent base surroundings.

Wall Brick: See Section 5.4.3

Roof: See Section 5.6

Window Frames: See Section 5.8.6

Soffits, Major Trim: TBD (To be determined by contractor/designer following Brooks Air Force Base's Architectural Compatibility Standards and closely match the corresponding surface of Bldg. 578.)

Minor Trim: TBD

Wall Paint: TBD

PART IV. - BASIC ANALYSIS

4.1 - Master Plan/Future Expansion: The site was established by Brooks Air Force Base. There are no current plans or requirements for future expansion. Important design parameters were considered to be: site adaptation, spatial organization, circulation, construction techniques, visual design, energy usage, and economy of construction.

4.2 - Visual Features: The design of this facility will provide a permanent, contemporary, aesthetically pleasing facility that will enhance this portion of the Base. The new facilities shall relate to nearby structures.

4.3 - Spatial Composition: The building's mass, exterior appearance, and color selection shall be designed to compliment structures in the area in accordance with Brooks AFB's Architectural Compatibility Plan.

4.4 - Barrier-free Design/Accessibility: The building is to be barrier-free. Every measure should be taken to minimize barriers within the facility.

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4.5 - Energy Conservation: The design shall provide a thermally efficient enclosure. The roof and walls of the facility shall be insulated in accordance with below. In addition, the mechanical and electrical systems shall be high efficiency. The facility orientation was dictated by the User. The following building construction U-values shall be required.

4.5.1 Outside Walls: U-factor of 0.10 or less.

4.5.2 Roof/Ceiling Assemblies: U-factor of 0.05 or less.

4.6 - Life Safety:

4.6.1 - References: (latest issues)

4.6.1.1 NFPA-101 - Life Safety Code

4.6.1.2 UBC - Uniform Building Code

4.6.1.3 NFPA-80 - Fire Doors and Windows

4.6.2 - Occupancy: Commercial, Laboratory (UBC)

4.6.3 - Type of Construction: II -N (UBC) with an approved automatic sprinkler system.

4.6.4 - Occupant Load: (NFPA-101 1994 Edition/16-1.7) One person per 18.6 SM of floor area or the maximum amount of actual occupants, whichever is greater. Contractor is responsible for making its own calculations.

4.6.5 - Exit/Egress Requirements - the exit/egress system must fully comply with NFPA 101 - Life Safety Code.:

4.6.5.1 First Floor: 72 x 10 mm/occupant = 720 millimeters required

Corridors 2.44 M wide (typical).

4.6.5.2 This facility must be fully sprinklered in accordance with NFPA 101 and MIL HDBK 1008B.

4.6.6 Fire Extinguishers: Contractor shall install fire extinguishers in recessed cabinets in accordance with NFPA 10 Standard for Portable Fire Extinguishers.

4.6.6.1 Portable fire extinguishers - See Par. 5.10.1.

4.7 - Acoustical Design: Special consideration shall be given to areas where privacy and noise reduction is required. The following is a tabulation of those areas and the minimum STC (sound transmission coefficient) required:

| Areas | (STC, MIN) |
|-------|------------|
|-------|------------|

| | |
|-------------------------------|---------------------------------|
| Between offices | 48 (50 mm sound batts, toilets) |
| Between offices and corridors | 48 |
| Between labs and corridors | 48 |

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PART V. - BUILDING SYSTEMS, MATERIALS, AND EQUIPMENT

5.1 - General: The primary entrances shall be recessed preferably to a vestibule area.

5.2 - Sitework: Refer to Section 02200 - GENERAL CIVIL DESIGN & SITE REQUIREMENTS.

5.3 - Foundation and Structure: Refer to Section 02500 - STRUCTURAL DESIGN REQUIREMENTS.

5.4 - Walls:

5.4.1 - Laboratories

5.4.1.1 Exterior - Composite wall construction consisting of an outer wythe of brick veneer, air space, rigid insulation board, and dampproofed CMU interior wythe.

5.4.1.2 Interior - Gypsum board on metal studs (CMU at corridors, mechanical and central spine). All interior CMU shall be furred with gypsum wallboard except at normally not occupied spaces like mechanical rooms, communications, electrical & janitor rooms.

5.4.2 - Administration

5.4.2.1 Exterior - Face brick veneer and CMU wall.

5.4.2.2 Interior - CMU interior partitions separating major functions and drywall partitions elsewhere.

Amd #2 5.4.3 Face Brick: Face brick shall match the color of the brick on Bldg. 578 in size, color and texture, and shall conform to ASTM C 2163, Type FBS.

5.4.4 Concrete Masonry Units: CMU shall conform to ASTM C 90, Type I, Grade N-1 lightweight for hollow load-bearing units OR ASTM C 145, Type 1, Grade N-1 lightweight for bearing units.

Amd #2 5.4.5 Handrails: Handrails shall match in vertical-to-horizontal proportion, color, size and texture, existing handrails on Bldg. 578. Rails shall conform to ASTM A53, for strength and safety factors.

5.4.6 Finish Carpentry: Built-in millwork shall be provided for various areas within the facilities. All casework shall be premium grade oak veneer plywood, stained and finished, custom made to fit space. All countertops, edges, and splashes shall be plastic laminate. All drawers shall have ball bearing drawer side-mounted glides. All doors and drawers shall have pulls with 626 finish.

5.4.7 Bituminous Dampproofing: Dampproofing shall be applied to the exterior side of the CMU wall (exposed to the air cavity).

5.5 Floors: Bituminous waterproofing shall be applied in all parts of slab depressions in toilet areas.

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5.6 Roofing: Standing Seam Metal Roof System (SSMRS). Refer to CEGS 07416 for roof system and CEGS 07417 for warranty. Also, refer to SWD-AEIM (Southwestern Division - Architect Engineering Instruction Manual). Brooks AFB prefers a minimal pitch to drains, to be hidden behind a fascia/parapet.

5.7 Doors

5.7.1 Steel Doors: All steel doors and frames shall be minimum 16 gauge, welded construction. All borrow lite frames shall be hollow metal. All interior frames shall be steel. All exterior doors and frames, except as noted as aluminum storefront, shall be steel. All exterior steel doors shall be insulated to a U-value of not more than 0.19.

5.7.2 Door sizes in the new lab facilities shall be as follows:

Scientific Testing Lab: All doors shall be 1.2 M (4') wide and 2.4 M (8') high except that double doors shall be 1.8 M (6') wide and 2.4 M (8') high. The door to the Lab Chief's office shall be 0.9 M (3') wide by 2.1 M (7') high.

Life Sciences Lab: All double doors shall be 2.4 M (8') wide by 2.4 M (8') high with the exceptions of the exit doors at the north side, into Bldg. 578, the exit doors at the west side, and the doors to the class/conference room, which shall be 1.8 M (6') wide by 2.1 M (7') high. The roll-up door to the dock shall be 3.6 M (12') wide by 3.6 M (12') high. The personnel door adjacent to the roll-up door shall be 0.9 M (3') wide by 2.1 M (7') high. Interior single leaf doors shall be 0.9 M (3') wide by 2.1 M (7') high. Insure 180 degrees of swing for the doors into Bldg 578, so that the doors lie flat against the wall, when fully open.

5.7.3 Glazing: All exterior glazing shall be 25 mm (1") thick insulating glass; tinted to match exterior glazing of Bldg 578, in color, fenestration and proportional size (Consider building mass when designing window size). Use tempered glass where required by code, i.e., near doors, etc. Glazing shall receive a butyl hot melt seal in lieu of silicone.

Amd #2

5.7.4 Hardware: To the maximum extent possible, locksets, latchsets, deadlocks, and exit devices shall be the products of a single manufacturer. All door hardware shall be grade 1 meeting the requirements of ANSI/BHMA testing standards. All locksets, latchsets and hinges shall be brass or bronze base metal. Hardware shall be satin chrome (626) finish, except hardware for aluminum storefront doors shall be dark bronze finish, where practicable. All exterior doors shall be fully weatherstripped. All screws and fasteners shall be solid brass in lieu of brass plated where brass plated screws might normally be used. All panic hardware shall be alarmed, refer to Section 02800 ELECTRICAL DESIGN REQUIREMENTS. Hardware finishes shall be similar all through the facility.

5.7.4.1 Locks and Keying: Locksets, exit devices, and keying shall be compatible with Brooks AFB's "Best" interchangeable cores with six pins to extend the existing base master keying system. Contractor is responsible for coring and keying all locksets as directed by the Government. Contractor shall meet with Government to establish keying schedule. Furnish locks with the manufacturer's standard construction key system. Permanent

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cylinders, cores, and keys shall be sent to the Contracting Officer by registered mail or other approved means. Change keys for locks shall be stamped with change number and the inscription "U.S. Property - Do Not Duplicate." Keys shall be supplied as follows:

| | |
|--------------------|--------------------------|
| Locks: | 2 change keys each lock. |
| Master keyed sets: | 6 keys each set. |
| Grand master keys: | 6 total. |
| Construction keys: | 6 total. |

The keys shall be furnished to the Contracting Officer arranged in a container (key cabinet or portable system (i.e. BHMA/ANSI A156.5 E8351 or E8361)), with expansion room, suitable for key control system storage in sets or subsets as scheduled.

5.7.4.2 Lock and Exit Device Trim: Trim shall be cast, forged, or heavy wrought construction of commercial plain design. In addition to meeting the test requirement of BHMA A156.2 or BHMA A156.13, knobs, lever handles, roses, and escutcheons shall be 1.27 mm thick, if unreinforced. If reinforced, the outer shell shall be 0.89 mm thick and the combined thickness shall be 1.78 mm except that knob shanks shall be 1.52 mm thick. Knob diameter shall be 54 to 57 mm. Lever handles shall be of plain design with ends returned to no more than 10 mm from the door face.

5.7.4.3 Hardware Submittals

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300 SUBMITTAL PROCEDURES (DURING CONSTRUCTION):

SD-01 Data

Hardware and Accessories; GA.

Manufacturer's descriptive data, technical literature, catalog cuts, and installation instructions. Spare parts data for locksets, exit devices, closers, electric locks, electric strikes, electro-magnetic closer holder release devices, and electric exit devices, after approval of the detail drawings, and not later than 3 month(s) prior to the date of beneficial occupancy. The data shall include a complete list of parts and supplies, with current unit prices and source of supply.

SD-04 Drawings

Hardware Devices; GA.

Detail drawings for hardware devices for computerized keying systems, magnetic cards, keyless push button access control systems, and other electrical hardware devices showing complete wiring and schematic diagrams and other details required to demonstrate proper function of units.

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SD-07 Schedules

Hardware Schedule; GA.

Hardware schedule listing all items to be furnished. The schedule shall include for each item: the quantities; manufacturer's name and catalog numbers; the ANSI number specified, sizes; detail information or catalog cuts; finishes; door and frame size and materials; location and hardware set identification cross-references to drawings; ; lock trim material thicknesses; lock trim material evaluation test results; corresponding reference standard type number or function number from manufacturer's catalog if not covered by ANSI or BHMA; and list of abbreviations and template numbers.

Keying Schedule; GA.

Keying schedule developed in accordance with \-DHI-03-\, after the keying meeting with the user.

SD-13 Certificates

Hardware and Accessories; FIO.

The hardware manufacturer's certificates of compliance stating that the supplied material or hardware item meets specified requirements. Each certificate shall be signed by an official authorized to certify in behalf of the product manufacturer and shall identify quantity and date or dates of shipment or delivery to which the certificates apply. A statement that the proposed hardware items appear in BHMA-01, BHMA-02, and BHMA-03 directories of certified products may be submitted in lieu of certificates. Furnish a separate certificate of compliance attesting that hardware items conform to the Section 00700 Contract clauses pertaining to the "Buy American Act."

SD-14 Samples

Locksets; GA.

Furnish a sample of the locksets and keys to be furnished this project. Notify the Contracting Officer and base personnel for a meeting demonstrating that the locksets to be furnished are fully compatible with the existing keying system. An existing base core, cylinder, and key will be fitted to the sample lockset. The sample key(s) shall be fitted to both the sample lockset and existing locksets. The core and cylinder shall fit the lockset without the use of adaptors and without play. The keys shall easily lock and unlock the locksets without binding or other difficulties. Control key shall easily remove and install cores.

5.8 Interior and Exterior Finishes:

5.8.1 The following are minimum interior finish requirements:

| <u>Room Name</u> | <u>Base</u> | <u>Floor</u> | <u>Walls</u> | <u>Ceiling</u> |
|------------------|-------------|--------------|--------------|------------------------------|
| LAB AREAS | RB | EP | CMU | ACT (unless otherwise noted) |

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| | | | | |
|----------------------|----|-----|--------|-----|
| OFFICES | RB | CPT | PGB | ACT |
| OTHER ADMIN AREAS | RB | CPT | PGB | ACT |
| LATRINES | RB | CT | CT/PGB | PGB |
| JAN. CLOSETS | RB | CH | PGB | PGB |
| VENDING AREAS | RB | RF | PGB | PGB |

5.8.2 Abbreviations for ceiling, wall and floor finishes:

CEILING:

ACT - Acoustical Ceiling Tile (medium tex)

PGB - Painted Gyp Board (semigloss finish Throughout)

WALLS:

CMU - Concrete Masonry Units (painted or covered with vwc)

CT - Ceramic Tiles (wainscot and full height in matte or bright glazed finish)

BASE:

CT - Ceramic Tile (use wall or floor tiles)

RB - Resilient Base (rubber or vinyl)

FLOORS:

CT - Ceramic Tiles (unglazed)

CPT - Carpet (wall-to-wall or tiles)

RF - Resilient Flooring (rubber tiles, Vinyl Composition tiles)

EP - Chemical resistant epoxy flooring, consisting of base coat and top coat, with medium grit finish, applied to concrete slab.

CH - Concrete Hardener (smooth concrete floor with medium grit in hardener finish)

Contractor shall be responsible for submitting a "BUILDING COLOR AND FINISH SCHEDULE" in the format as shown in the Interior Design Presentation format guide, as part of the design submittal process at which time color deviations to the interior colors may be required. Section 09000 BUILDING COLOR & FINISH SCHEDULE is provided in this RFP as a guideline only.

5.8.3 Paints shall not contain lead, mercury, or chromates.

5.8.4 Ferrous surfaces that have not been shop coated shall be solvent-cleaned. Surfaces that contain loose rust, loose mill scale, and other foreign substances shall be cleaned by hand tool cleaning in accordance with SSPC SP2. After cleaning, one coat of SSPC Spec No. Paint 25, ferrous metal primer, shall be applied to all ferrous surfaces to receive paint other than asphalt varnish and vinyl paint. The semi-transparent film applied to some pipes and tubing at the mill is not to be considered a shop coat, but shall be overcoated with the specified ferrous-metal primer

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prior to application of finish coat. Shop-coated ferrous surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.

5.8.5 Paints shall comply with applicable state and local laws enacted to ensure compliance with Federal Clean Air Standards. Materials shall conform to the restrictions of the Texas Air Control Board's Air Pollution Regulation V (31 TAC Chapter 115) for architectural coatings.

5.9 Furnishings

5.9.1 Fire extinguisher cabinets shall be fully recessed . Fire extinguishers shall be included in the contract and shall be 5 gallon, UL type 2A:10B:C. Cabinets shall be factory primed and field painted or factory prefinished . Any cabinet installed in a fire rated wall or partition shall be fire rated accordingly.

5.9.2 Signage: Contractor to use Air Force Sign Standard AFP 88-40 as a guide for exterior and interior signage system.

5.10 Mechanical/Fire Protection: Refer to - Section 02600 - MECHANICAL DESIGN REQUIREMENTS.

5.11 Electrical: Refer to - Section 02800 - ELECTRICAL DESIGN REQUIREMENTS.

PART VI. - ECONOMIC JUSTIFICATION

Constructability, Site Conditions, Long Lead Times: The initial cost of materials and their inherent durability and ease of maintenance should be combined to produce acceptable first cost as well as life-cycle cost effectiveness.

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SECTION 02800 - ELECTRICAL DESIGN REQUIREMENTS

PART 1 - GENERAL

1.1 BASIC REQUIREMENTS:

Basic requirements for design are set forth in Criteria and Standards for Air Force Construction Guidelines; Base Standards; NFPA 101; 1996 National Electrical Code (NEC), 1993 National Electrical Safety Code (NESC), National Fire Protection Association (NFPA), and OSHA Regulations. All materials, equipments, fixtures, and appurtenances shall be labeled by Underwriters' Laboratories, Inc., or a similar acceptable organization.

1.2 GENERAL REQUIREMENTS

The electrical requirements shall be applied to renovation of existing building 578 and new construction area. The renovation area shall consist of administrative offices, computer offices, computer room, and virtual reality. See architecture plan for location of each areas.

Electrical system shall be completed and ready operation. The designs, demolitions, and installations shall require to include all the electrical works of renovation areas of building 578 and new construction areas. The electrical requirements shall consist as follow:

- Demolition of renovation of building 578
- Telecommunication/Data system
- A new primary power distribution system for a new construction area
- Power System
- Lighting System
- Fire Alarm System
- Cathodic Protection
- Lightning Protection
- Power Conditioning and Power Distribution Unit

In addition, the existing electrical system shall always remain to operate because the existing building 578 will be occupied by existing occupants during construction.

1.3 ELECTRICAL SYSTEM:

System characteristics shall be selected to provide for the most efficient and economical distribution of energy. Voltages selected shall be of the highest order consistent with the load served. A three-phase 208Y/120 - volt system shall generally be used to serve incandescent lighting and general receptacles. Consideration shall be given to a three-phase 480Y/277-volt system for heating and air-conditioning loads, fluorescent lighting, and other large motor loads.

PART 2 - ELECTRICAL DESIGN AND DESIGN ANALYSIS

2.1 REFERENCES:

The reference and design publications list below shall be used as sources of reference and criteria for electrical design. All references used shall be the most recently published editions. References include:

AFRs 91-4, AF-TC Supplement #I, and 91-43

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AFP 91-38

AFMs 88-9 (Ch. 1-3), 91-3, and 91-17

Mil Handbooks 1004/1-4, 6, and 7; 419 (Vols I and II), 1190, and 1008B

AF ETLs 87-5, 88-4, 89-6, 90-6, and 91-5

NFPA 70 (NEC), 1996 edition

NFPA 780 (Standard for the Installation of Lightning Protection Systems), 1995 edition

ANSI C2 (NEC), 1993 edition

Center Regulation 92-1, paragraph 20

2.2 PRIMARY DISTRIBUTION DESIGN ANALYSIS:

Contractor shall provide the following primary distribution system design analysis information:

- a) Voltage drop calculations.
- b) Short circuit calculations.
- c) Primary power one-line diagram.

2.3 SECONDARY DISTRIBUTION DESIGN ANALYSIS:

Contractor shall provide the following secondary distribution system design analysis information:

- a) Panel board calculations including connected loads, demand loads, and wire and conduit sizing.
- b) Lighting calculations.
- c) Voltage drop calculations.
- d) Short circuit calculations.

2.4 INTERIOR LIGHTING DESIGN (New Construction and Renovation of Bldg. 578)

2.4.1 Lighting Intensities

Lighting intensities shall conform to the foot-candle levels as shown in the Illuminating Engineering Society (IES) Handbook. Zonal cavity method of analysis shall be used in office spaces and the beam lumen method in all other areas.

2.4.2 Emergency Lights

Provide emergency exit signs and egress lighting for all exits and passageways as required by NFPA 101, Code for Safety to Life from Fire in Buildings and Structures, and ETL 91-5. Furnish illuminated LED type exit signs, color red or green as appropriate, with individual emergency battery packs. Remote battery packs are not acceptable. Furnish emergency egress lighting using emergency battery packs as an integral part of fluorescent fixtures. If no fluorescent fixtures are present then

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use self-contained emergency fixtures. Attention shall be given to the type and location of fixtures selected to ensure firm and rigid anchoring.

2.4.3 Lighting Fixtures

Energy efficient fluorescent lighting fixtures shall be used to the maximum extent possible. New lighting fixtures shall be provided for entire new construction area and renovation of bldg. 578.

2.4.4 Specific Requirements

a) Scanning Electron Microscope (SEM) room - SEM room lighting shall have combination of fluorescent and down lighting to provide two levels of illumination; these down lights shall be controlled by a dimmer control switch.

b) Life Science Laboratory - Provide fluorescent light with daylight color for entire Life Science Laboratory.

2.5 INTERIOR POWER DESIGN (New Construction and Renovation of Bldg. 578)

2.5.1 Duplex Convenient Outlets (Receptacles)

General use receptacles shall be connected to 20-amp branch circuits. A maximum of six general use receptacles shall be connected to any one 20-amp branch circuit. The following requirements shall also be incorporated into the design.

2.5.2 Scientific Testing Laboratory

In the Scientific Testing Laboratory, general use receptacles shall be provided at spacing of 6 feet for all the laboratories and offices in Scientific Testing Laboratory. For all receptacles for laboratory work benches shall be mounted above the work benches. In addition, the dedicated circuits and special requirement for each room shall be described in sections 2.5.2.1 to 2.5.2.5 below:

2.5.2.1 Chemical Laboratory

This laboratory requires to have dedicate circuits for equipments list in table below.

| Equipment | Volt/ Phase | Type of Connection | Full Load |
|-------------------------------------|----------------|-----------------------|--------------|
| Optical Emission Spectrometer | 230-1 | 20-amp Receptacle | 1.6 KVA |
| X-ray Fluorescence Spectrometer | 230-1 | 20-amp Receptacle | 7.5 A |
| Carbon/Sulfur Determinator (unit 1) | 230-1 | 20-amp Receptacle | 7.5 A |
| Carbon/Sulfur Determinator (unit 2) | 230-1 | 20-amp Receptacle | 15 A |
| Sander | 120-1 | 20-amp Receptacle | ½-hp |

| | | | |
|-------------|-------|----------------------|--------|
| Grinder | 120-1 | 20-amp Receptacle | 1/3-hp |
| Drill Press | 120-1 | 20-amp Receptacle | ½-hp |

2.5.2.2 Textile Laboratory

2.5.2.2a Parachute Room

This room shall have a minimum three floor receptacles along a Parachute table. Provide a j-box connection with 120 volt, 20-amp branch circuit for Parachute table and this j-box shall be located at 20 feet from the tip of table. See attachment for Parachute Room's equipments layout. Provide dedicated 20-amp branch circuits with a maximum of two receptacles connect to each circuit for such one receptacle for sewing machine and one receptacle for each desk.

2.5.2.2b Textiles Testing Room

This room shall have dedicated 20-amp branch circuit with maximum of two receptacles connect to each circuit such one receptacle for each Hood, one receptacle for Distiller, one receptacle for HST, one receptacle for LD. Provide dedicated circuit for each equipment list in table below.

| Equipment | Volt/ Phase | Type of Connection | Full Load |
|--------------------------|----------------|-----------------------|--------------|
| Weather-O-Meter (unit 1) | 230-1 | J-box | 57 A |
| Weather-O-Meter (unit 2) | 230-1 | J-box | 47 A |
| Fade-O-Meter | 230-1 | J-box | 40 A |
| Large convection Oven | 230-1 | J-box | 7kw |
| Small Convection Oven | 230-1 | J-box | 1.6kw |
| New Launder-O-Meter | 110-1 | 30-amp Receptacle | 21 A |
| Old Launder-O-Meter | 110-1 | 30-amp Receptacle | 21 A |
| Steam Washer | 110-1 | 30-amp Receptacle | 21 A |
| Wringer | 110-1 | 30-amp Receptacle | 21 A |

2.5.2.2c Mechanical test room

Provide dedicated circuit for each equipment list in table below.

| Equipment | Volt/ Phase | Type of Connection | Full Load |
|-----------|----------------|-----------------------|--------------|
|-----------|----------------|-----------------------|--------------|

| | | | |
|---------------------------|-------|----------------------|------|
| United Tensile Tester | 110-1 | 30-amp Receptacle | 21 A |
| 20K Inston Tensile Tester | 110-1 | 30-amp Receptacle | 21 A |
| Wringer | 110-1 | 30-amp Receptacle | 21 A |

2.5.2.3 Metallurgy Laboratory

2.5.2.3a Scanning Electron Microscope (Sem) Room

Provide dedicated circuit for each equipment list below.

| Equipment | Volt/ Phase | Type of Connection | Full Load |
|---------------------------------|----------------|-----------------------|--------------|
| Scanning Electron Microscope | 208-1 | J-box | 6 kva |
| EDS Unit | 115-1 | 20-amp Receptacle | 15 A |
| Nitrogen cylinders | 115-1 | 20-amp Receptacle | 15 A |

2.5.2.3b Photo Room

Provide dedicated circuit for equipment list below.

| Equipment | Volt/ Phase | Type of Connection | Full Load |
|------------------------|----------------|-----------------------|--------------|
| ELX water recirculator | 208-3 | Receptacle | 15 A |

2.5.2.3c General Laboratory Room

Provide minimum six receptacles above the counters and every two of these receptacles shall be connected with dedicated 20-amp branch circuit. Provide a j-box with 120-volt, 20-amp branch circuit for an island work bench and this j-box shall be located at the center end of work bench. Provide dedicated circuit for each equipment list below.

Am#2

| Equipment | Volt/ Phase | Type of Connection | Full Load |
|-------------------|----------------|-----------------------|--------------|
| Cut off saw | 208-3 | Receptacle | 22-amp |
| Chemical Hood | 120-1 | 20-amp Receptacle | 3.6- amp |
| Polishing Machine | <u>208-3</u> | <u>Receptacle</u> | 3.6- amp |

2.5.2.4 Dimensional Laboratory

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Provide power conditioner to serve all the receptacles and j-boxes for this laboratory. Provide dedicated circuit for each equipment list in table below.

| Equipment | Volt/ Phase | Type of Connection | Full Load |
|--------------------|----------------|-----------------------|--------------|
| Optical Comparator | 120-1 | j-box | 18-amp |
| CMM | 120-1 | j-box | 1.5-amp |
| Air Dryer for CMM | 120-1 | j-box | 6-amp |

2.5.2.5 Nondestructive Inspection Laboratory

Provide dedicated 120-volt, 20-amp circuit for X-ray equipment.

2.5.3 Computer Room (Renovation of Bldg. 578)

This room is renovated from existing Computer Room riser floor. The existing panel "CP" and "CR" are the main power service for this room and vicinity areas. Characteristic of panel "CP" is 240V, 3-phase, 1200-amp main lug, and sub-feed protection for panel "CR" with 225-amp circuit breaker. To avoid out of power for other areas, these two panels shall remain in place.

All electrical outlets requirement for this room shall new. Contractor shall provide all the electrical requirements as shown in figure 02800-1, 02800-2 and table 02800-A at the end of section 02800. Contractor shall provide Power Distribution Unit (PDU) and shall be installed in location shown on figure 2800-1. See section 3.21 for PDU requirements. All other equipments shown in figure 2800-1 except PDU shall be provided by others. Contractor shall provide a connection point for Uninterruptible Power Supplies (UPS) which provided by others. Contractor shall provide an emergency shut down button to disconnect power to all equipments and HVAC in this room.

Am#2

2.5.4 Computer Office (Renovation of Bldg. 578, Group with 5 Cubicles)

See figure 02800-3 at the end of section 02800 for electrical requirement of this area.

2.5.5 Life Sciences.

2.5.5.1 Ultrasonic Cleaning

Provide one 220-volt receptacle and one duplex receptacle.

2.5.5.2 Artifact Analysis Areas

Provide one receptacle for each island desk.

2.5.5.3 Dark Room and Microscopy Room

Provide two 220-volt receptacles for each long wall (total four receptacles). Provide two duplex receptacles for each wall (total eight receptacles) in Darkroom and four for long walls of Microscopy room and two receptacle for each end wall.

2.5.5.4 Mishapscenario Traning Area

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Provide minimum one receptacle for each wall and one receptacle for each "L" shape table.

2.5.5.5 Classroom/Conference Room

Provide a minimum of four receptacles on the South wall of this room, two receptacles for each side wall and also provide one ceiling receptacle for each table. In addition, provide minimum two receptacle in the hall way of this room (a wall having double door side).

2.5.6 Receptacle for Communication Outlet

Provide a receptacle for each communication outlet. Also, Provide dedicated 20-amp branch circuits for such receptacles with a maximum of two receptacles connected to each circuit. All receptacles located adjacent to data outlets shall be provided with integral transient voltage surge suppression (TVSS).

2.5.7 Receptacle for Vending Machine

Provide a receptacle for each vending machine. Provide dedicated 20-amp branch circuits for vending machines with a maximum of two vending machine receptacles on each dedicated circuit.

2.5.8 Receptacle for Offices

Provide a general use receptacles every 12 feet through out each office.

2.5.9 Mechanical and electrical room

Provide one receptacles for each wall of these rooms.

2.5.10 Corridors

Provide one receptacle for every 20 feet.

2.5.11 Telecommunication Room

Provide minimum of four receptacles in telecommunications room and each receptacle shall be connected to a dedicated 20-amp branch circuit.

2.6 INTERIOR TELECOMMUNICATIONS SYSTEM (New Construction and Renovation)

2.6.1 General Requirements

Interior communication systems shall be designed in accordance with the applicable Telecommunications Industry Association (TIA) and Electronic Industries Association (EIA) documents.

New telecommunication system shall be provided in new communication room. This new telecommunication system shall be tied to existing telecommunication system. The existing communication system location in "Tele. Equip." Room of existing building 578. See architect Demolition Plan for exact location of this room. The existing telecommunication system shall adequate to provide communication for both areas an existing building 578 and a new construction area. Therefore, the exterior incoming communication shall not require for this facility. For additional information about the existing telecommunication system, contractor may contact Base Communication Office, 70 CS/SCXP, telephone (210) 536-8000.

2.6.2 Wiring

The telecommunications room and all offices shall be wired in accordance with the Brooks Air Force Base (AFMC) Communications Wiring Systems Standard (CWSS) (See attachment 2). Each communication outlet shall be wired for telecommunication services as stated in paragraph 8.3 of the CWSS.

2.6.3 Computer Room (Renovation of Bldg. 578)

For all the communication outlets required see figure 02800-1 and 02800-2 at the end of section 02800.

2.6.4 Scientific Testing Laboratory (New Construction)

Provide minimum one communication outlet for each workbench, work station, or desk in these laboratories; for any long workbench three outlets shall be provided. In addition, an U-Desk in Office/Storage Room shall be provided with two communication outlets.

2.6.5 Computer Office (Renovation of Bldg. 578, Group with 5 Cubicles)

Provide one communication outlet for each workstation (20 workstations). In addition, 8 Ethernet outlets and two 10-Base-2 outlets shall be installed. 8 Ethernet outlets shall be installed to the two most east cubicles with one Ethernet drop per workstation. Each Ethernet outlet shall be 10-Base-T cable with RJ-45 jack. Two 10-Base-2 shall be installed in the middle cubicle, one for each workstation near the entrance. _____ All outlets in this area shall be mounted on floor.

Am#2

2.6.6 Administration Office (Renovation of Bldg. 578)

Provide one floor communication outlet for each workstation in the Administration Office. renovation area (except computer office) and in Life Sciences.

2.6.7 Life Sciences (New Construction and Renovation of Bldg. 578)

Provide one floor communication outlet for each workstation in Life Sciences Laboratory. For any office or administration areas do not shown the workstation then one communication outlet for every 10 m² (100 ft²) shall be provided. Provide one communication outlet in the hall way of Classroom/Conference Room (a wall having double door side).

2.6.8 Communication Outlet for HVAC

Provide one communication outlet for each HVAC control system.

2.6.9 Conference Room

Conference Room shall be provided one communication outlet.

2.6.10 Voice Transmission

Terminate all interior copper wiring used for voice transmission on backboard in telecommunications room on 66M1-50 blocks with stand-off brackets.

2.6.11 Data Transmission

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Terminate all interior copper wiring used for data transmission on a copper patch panel in telecommunications room.

2.6.12 Fiber Optic

Terminate all interior fiber optic cabling on a fiber optic patch panel located in the telecommunications room.

2.6.13 Patch Panels

All patch panels shall be sized to accommodate all required cabling plus 100% spare capacity. Patch panels shall be mounted to backboard.

2.6.14 LAN Hub

A LAN hub shall be provided. Contractor shall contact CS/SCXP (base personnel), telephone (210) 536-8000, for exact requirements.

2.6.15 Components

All required cabling, including patch cords, shall be provided between various components of the telecommunications systems resulting in fully operational systems.

2.6.16 Identification

Mark cabling, outlets, and patch panels to allow easy identification of ports and outlets. Use a standard marking system.

2.7 FIRE ALARM SYSTEM

System shall be provided in accordance with section 02700.

2.8 ENERGY MANAGEMENT AND CONTROL SYSTEM (EMCS)

For EMCS requirements, see section 02600.

2.9 HAZARDOUS (CLASSIFIED) LOCATION

All electrical equipments and wiring installation for hazardous area shall be applied to NFPA 70 (NEC).

(a) Textiles Testing Room shall be applied to Class I, Division II.

(b) Explosive Storage Room shall be applied to Class I, Division I.

2.10 SPECIAL LOCATION AREA

2.10.1 Nondestructive Inspection Laboratory

All the electrical equipments and wiring installation for X-ray equipment shall be applied to NFPA-70 (NEC).

2.10.2 Scanning Electron Microscope (SEM) Room

This room is going to install a Scanning Electron Microscope JSM-6400V. This room shall be shielded to have stray AC magnetic field of 3 microtesla or less. For additional requirements, contractor shall contact the equipment manufacture (JEOL USA Inc.), telephone (508 536 2340).

2.11 POWER DISTRIBUTION SYSTEM

2.11.1 Main Switchboard

Provide a main distribution switchboard to be located in the first floor electrical room. Switchboard shall have a main circuit breaker. All other over current protection devices within switchboard shall be circuit breakers. All large motor loads shall be fed directly from switchboard. All circuits connected to switchboard shall be properly labeled. Total phase loads on switchboards will be balanced equally between phases or to best case conditions.

2.11.2 Panel Boards

Provide circuit breaker type panel boards. All panel boards which are fed from the switchboard or another panel board and not in sight of such sources shall be provided with a main circuit breaker. All panel boards located in occupant common use areas shall be recess mounted. All branch circuits connected to panel boards shall be properly labeled. Total phase loads on switchboards will be balanced equally between phases or to best case conditions.

2.11.3 Dry-type Transformers

If contractor utilizes a secondary distribution voltage of 480/277, dry-type transformers shall be provided in the electrical room for 208/120 volt loads.

2.11.4 Electrical Metering

Provide a draw out watthour demand meter in the main distribution switchboard.

2.11.5 Branch Circuits

Provide properly sized branch circuits for all equipment requiring electrical power.

2.11.6 Low Voltage Conductors

All low voltage conductors shall be given continuity and insulation resistance tests.

2.12 INTERIOR ELECTRICAL DEMOLITION

2.12.1 Location of Electrical Room and Communication Room

See architect Demolition Plan for location of all the electrical and communication rooms.

2.12.2 Interior Lighting Demolition

All lighting fixtures and emergency lights shall be completely removed in all renovation areas except the lighting in Computer Room (riser floor area) at Northeast of existing building. New lights shall be applied in sections above.

2.12.3 Interior Powers and Communications Demolition

2.12.3.1 General

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All electrical equipments, wiring, conduits, receptacles, and communication outlets locate on the walls to be demolition shall be completely removed before the walls demolished. Contractor shall coordinate Architecture to know which wall to be demolished. New interior electrical requirements shall be applied in section 2.4 above.

2.12.3.2 Computer Room

All the receptacles and communication outlets shall be completely removed. The new electrical requirement shall be applied in sections above.

2.12.3.3 Annex Area

All the electrical equipments, receptacles, and communications in this area shall be completely removed. For any conduits in the slab shall be abandoned in place and sealed double end.

2.13 EXTERIOR ELECTRICAL DESIGN

2.13.1 Electrical Distribution System Requirements

2.13.1.1 General

The existing underground primary electrical distribution system shall be remained to have power for an existing building 578. A separate primary electrical system shall be provided for a new construction area. The new primary cables shall be tied with the existing primary cables. For location of existing primary electrical distribution see site drawing sheet C2. All underground lines must be coordinated with the base engineering office. Primary system voltage is 13.8 KV.

2.13.1.2 Design Criteria

Electrical distribution systems within contract limits shall be an underground system. Service drops shall be underground. Installation shall conform to the latest applicable rules of the NEC, NESC, and Air Force Standards.

2.13.1.3 System Design

System shall be a radial system fed through a fused type switch with a pad-mounted transformer. Delta-wye transformation is required. Medium voltage cable shall be in concrete encased ducts buried 600 mm below grade with appropriately labeled cable markers and tape 300 mm below finished grade. Low voltage cables shall be in rigid metal conduit buried 600 mm below finished grade. Design shall insure that the estimated peak on each transformer shall not exceed the rated capacity of the transformer.

2.13.1.4 Primary Transformer

Transformer shall be pad-mounted type. Sizing of transformer shall be based on appropriate demand and diversity load factors. Transformer pad shall be concrete. Locate transformer to the rear of the building, near mechanical, electrical room, and away from entries, especially main entries and traffic areas.

2.13.1.5 Equipment Screening

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Transformer shall be screened utilizing a masonry screen constructed of 150 mm (6 inch) CMU and 100 mm (4 inch) face brick to match the building brick.

2.13.2 Fiber Optic Cables

Two existing direct burial Fiber Optic cables (two in the same line) lay under the footprint of the new construction area. These cable shall be moved to different path. Contractor can choice to move these cables by two ways. First, These cables shall be re-routed to different path. Second, these cable shall be abandoned and run the new cables in concrete encased to different path. For location of these Fiber Optic cables see site drawing sheet C2. These cables are 24 multimode fiber.

2.13.3 Exterior Lighting

Provide 70W HPS wall packs adjacent to all exterior entrances. Wall packs shall be controlled by a photocell. Locate photocell under eaves facing north. Do not place on roof.

2.13.4 Cathodic Protection

2.13.4.1 Design Criteria

Contractor shall provide Cathodic Protection Designer's Qualifications in accordance with AF ETL's 88-4 and 91-6.

2.13.4.2 References

Provide cathodic protection and corrosion control in accordance with the following. All publications utilized shall be the most recent edition.

AFR 91-27

AF ETL's 86-4, 88-4, and 91-6

AFM 85-5

Mil Handbook 1004/10

NACE Standards

2.14 LIGHTNING PROTECTION

2.14.1 General

Contractor shall provide a complete lightning protection system to protect both areas which are an existing building and a new construction area. The designing and installation of lightning protection system shall be furnished by certified Master Labeled.

2.14.2 Design Criteria

The lightning protection system shall conform to NFPA 780, NFPA 70, UL 96, and UL 96A.

2.14.3 System Design

The complete installation shall have a total resistance to ground of not more than 25 ohms. A grounding electrode shall be provided for each down

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conductor. Ground rods shall be set not less than 900mm (3 feet) nor more than 2.5m (8 feet.)

PART 3 - MATERIALS

3.1 IDENTIFICATION PLATES

3.1.1 Major Item of Electrical Equipments

Furnish and install nameplates to adequately describe the function or use of all disconnect switches, starters, control devices, switchboards, panel boards, power conditioner, etc. Nameplates shall be laminated phenolic plastic.

3.1.2 Medium Voltage

Provide medium voltage cable identification consisting of white enamel filled engraved brass tags fastened to each cable (or group of cables) with stainless steel straps.

3.1.3 Primary Transformer

Provide primary transformer identification consisting of permanently attached nameplate with a minimum text height of 76 mm (3 inch) reflective white on black. Identify transformer with transformer KVA rating, number of phases, feeder number, and equipment designation number in three rows.

3.2 MOTORS

Motors having ratings between 1.5 and 22 KW shall be of the energy-efficient type; having an efficiency rating of not less than 90 percent whether or not motors are separately provided or included in equipment assemblies. Motors are to be furnished as indicated under section 02600.

3.3 MOTOR STARTERS

Furnish motor control centers where 5 or more starters are located together.

3.4 POWER CONDITIONER

3.4.1 General

Power conditioner shall have input and output circuit breakers, and system status and control panel assembled as a single unit. Power conditioner's motor shall be on a single shaft installed in an acoustical treated cabinet designed to reduce operating noise. Bearing shall be of the completely sealed type. Components shall be accessible without opening of a door.

3.4.2 Characteristics

Power conditioner shall meet all the characteristics list below:

| | |
|----------------------------|--|
| Input frequency: | 60 Hz |
| Full Load Rating: | As calculate demand plus 50% spare load. |
| Power Factor: | 0.8 lagging. |
| Input Voltage Range: | +15% to -25% |
| Output Voltage Range: | Maximum 4% |
| Total harmonic distortion: | Maximum 3% total |

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Efficiency: Minimum 86% at full load and 88% at half load under normal operating conditions.
Output Sound Level: Shall not exceed 50 dB at 3 feet.
Electrical Noise attenuation: Unit shall have 100% common mode and transverse mode noise attenuation between input and output.
Inrush Current: Inrush current shall be limited to 300% maximum of full load current during startup.

3.4.3 System Status and Control

Unit shall contain a system status and control panel which includes all instruments and controls required for proper system operation.

3.5 CONDUITS

3.5.1 Minimum Size Conduit

Minimum size conduit shall be 16 mm (½ inch) except as indicated elsewhere in this RFP.

3.5.2 PVC Conduit

PVC conduit as allowed by the NEC shall be used in damp locations. i.e., in concrete and in earth.

3.5.3 Electrical Metallic Tubing

Electrical metallic tubing shall be used in areas where rigid is not required. Compression type fittings shall be used for 16 mm (½ inch) through 53 mm (2 inches), set-screw type for larger than 53 mm (2-1/2 inches). Indenter type fittings shall not be used. Use of EMT in wet locations is prohibited.

3.5.4 Rigid Polyvinyl Chloride Conduit

Rigid polyvinyl chloride conduit shall be used only where permitted by NEC.

3.5.5 Liquid-tight Flexible Conduit

Liquid-tight flexible conduit shall be used to connect all motors and moving electrical equipment.

3.5.6 Exposed Conduit

Conduits shall not be exposed except in communication or mechanical/electrical rooms.

3.6 PULL BOXES AND JUNCTION BOXES

Furnish and install pull boxes and junction boxes to facilitate conductor installation. Size boxes as required by the NEC.

3.7 PULLING CABLES

All cables shall be pulled in a good workmanship manner using approved methods.

3.8 WIRE AND CABLES

3.8.1 Low-voltage Conductors

All low-voltage conductors (secondary) shall be copper and rated 600 volt, 60 degree C or higher for No. 10 and No. 12, and 75 degree C or higher for No. 8 and larger. No. 8 conductors and larger shall be stranded. All conductors shall be protected by a raceway system.

3.8.2 Power and Lighting

Power and lighting circuits to be No. 12 AWG minimum.

3.8.3 Medium-voltage Cables (primary)

Provide 15KV, 133 percent insulation level, medium-voltage cables with high quality tree resistant crossed linked polyethylene insulation or EPR insulation (EPR is preferred). Provide splices, terminations and other accessories with ratings not less than the rating of the cables on which they are installed. Provide neutral conductors of grounded neutral systems with the same insulation material as phase conductors, except that a 600 volt insulation rating is acceptable. Provide full-sized neutral conductors. "T-taps" are not allowed. Use pad mounted switches in lieu of "Ttaps". Splice conductors only in manholes. Fireproof medium-voltage cables and conductors for their entire length within a manhole. Asbestos materials are not acceptable. Provide high quality pre-molded manufactured type medium-voltage splices. After installation and before the operating test or connection to an existing system, the medium-voltage cable system shall be given a DC high potential test.

3.9 EQUIPMENT DISCONNECT

All disconnect switches shall be heavy duty type, quick-make, quick-break, and KW (horsepower) rated. Switches shall have a cover interlock with a defeat device.

3.10 OVER CURRENT PROTECTIVE DEVICES

Circuit breakers shall be molded case, quick-make, quick-break thermal-magnetic type in accordance with NEMA AB 1, NEMA AB 3, IEEE No. 1, and UL 489.

3.11 WIRING DEVICES

3.11.1 Duplex Receptacles

Duplex convenience outlets shall be standard grade, 20 amp, 120 volt. Furnish duplex outlets with integral transient voltage surge suppression (TVSS) protection where servicing electronic equipment and not otherwise protected by panel TVSS.

3.11.2 Light Switches

shall be standard grade, 20 amp, voltage rating as required.

3.12 OUTSIDE SERVICE

The building electrical service shall be underground, 15 KV nominal. All splices and terminations shall be made by a qualified installer.

3.13 PRIMARY TRANSFORMERS

3.13.1 Provide pad-mounted, tamper-proof, compartmental, low-loss, switched, outdoor, radial feed type transformer, three-phase, delta-wye, oil-immersed (with no PCB's) transformers with two separate windings per phase. Provide with four 2-1/2 percent rated KVA high-voltage taps below rated primary voltage. Locate operating handles for primary tap changers within high-voltage compartments, externally to transformer tanks. Provide transformers in shortest available enclosures (1016 mm (40 inches) high is target maximum). The voltage rating of protective devices for use on primary or secondary systems shall be not less than the nominal voltage of the system to which they are connected. Provide high quality, pre-molded type elbows and bushings of the load-break type with test points. Provide protective caps for all spare and unused bushings. Provide all special tools required to operate elbows. Furnish transformers with barriers between high and low voltage compartments. Interlock high-voltage compartment doors with low-voltage compartment doors to prevent access to any high-voltage section unless its associated low-voltage section door has first been opened. Size compartments to meet the specific dimensional requirements of ANSI C57.12.26. Provide pentahead locking bolts and padlock hasp for compartment doors.

3.13.2 Provide high-voltage compartments with dead front construction and load-break elbow connection wells. Provide primary protection to include load-break four position switching, draw out wet-well-mounted expulsion and current-limiting fuses. Provide with a three-phase, load-break switch; a single, 4-position, line A only, line B only, line A and B feed through transformer on, line A and B feed through transformer off. Switches may be mounted inside transformer tanks with switch operating handles located in high-voltage compartments and equipped with metal loops for hook stick operation. Interlock fuses with switches so that fuses can be removed only when the associated switch is in the "OFF" position. Provide a nameplate or equivalent stenciled inscription adjacent to medium-voltage cable connections, inscribed "Do not open cable connectors unless switch is off". Provide nameplates identifying switch operating handles and "ON" and "OFF" positions adjacent to switches. Provide surge arresters at all open circuit points. Arresters shall be of the distribution-valve class.

3.13.3 Provide secondary protection consisting of current-limiting fuses connected to the associated transformer bushings. Provide neutrals with fully insulated bushings. Do not install ground straps between neutrals and ground pads. Provide clamp type cable terminations, suitable for both copper and aluminum conductors entering from below as required. Stagger secondary bushings to provide maximum cable connection space. All secondary transformer connections shall be of the compression bolt-on type. Allen set screw type will not be allowed.

3.13.4 Provide instruction nameplates listing all transformer data including the number of gallons of transformer oil. Permanently attach high-voltage warning signs to each side of transformer stations. Provide stainless steel ground connection pads in both the high- and low-voltage compartments.

3.14 GROUNDING

3.14.1 The entire electrical system shall be grounded. Provide NEC grounding for all communications systems including, but not limited to, telephone, EMCS, and LAN systems.

3.14.2 Provide a green wire ground in all conduits.

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3.14.3 Provide an external ground wire with grounding bushings on flexible conduit.

3.14.4 A ground resistance of 25 ohms measured in normally dry conditions not less than 48 hours after rainfall shall be provided at each installed ground rod.

3.15 DISTRIBUTION SWITCHBOARD

The switchboard shall consist of a main circuit breaker and molded-case feeder circuit breakers. The meter section will consist of volt, ampere, and kilowatt meters.

3.16 PANEL BOARDS

Panel boards shall be of dead-front construction and circuit breaker equipped. Load centers are not acceptable.

3.17 TRANSFORMERS, DRY-TYPE

Dry-type transformers shall have Class "H" insulation, 80 C rise above ambient, and four 2-1/2% taps - 2 above normal and 2 below normal.

3.18 METERS

Watthour meter shall conform to ANSI C12.1 and ANSI C12.10, except numbered terminal wiring sequence and case size may be the manufacturer's standard. Watthour meter shall have a 15-minute, cumulative form, demand register meeting ANSI C12.4 and provided with not less than two and one-half staters. Watthour demand meter shall have factory-installed electronic pulse initiators meeting the requirements of ANSI C12.1. Pulse initiators shall be solid-state devices incorporating light-emitting diodes, phototransistors, and power transistors, except that mercury-wetted output contacts are acceptable. Initiators shall be totally contained within the watthour demand meter enclosure, shall be capable of operating up to speeds of 500 pulses per minute with no false pulses, and shall require no field adjustments. Initiators shall be calibrated for a pulse rate output of one pulse per 1/4 disc revolution of the associated meter and shall be compatible with the base EMCS system. If any of the above requirements prevent the meter from being compatible with the base EMCS system, required adjustments shall be made with the approval of the contracting officer.

3.19 LIGHTING

- a) Fluorescent lamps shall be low wattage compact or F32T8 type.
- b) Ballasts shall be high efficiency electronic type.
- c) Exterior lighting shall be HID type with HPF ballasts.

3.20 PRE-WIRING FOR COMMUNICATION SYSTEMS

3.20.1 Communication Outlets

Communication outlets will be standard 117 mm square by 53 mm deep (4-11/16" square x 2-1/8" deep) metal boxes with 27 mm (3/4") conduit connected to boxes and stubbed-out one foot above false ceilings. Outlet boxes shall be utilized as indicated in the CWSS. If there are no false

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ceilings, then conduit will be provided from the communication outlet to the telecommunications room.

3.20.2 Coordinate

Pre-coordinate all communications work with the 70 CS/SCXP before design proceeds.

3.21 POWER DISTRIBUTION UNITS

Provide power distribution unit (PDU) as Liebert model PRC100 or equivalent.

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DEPARTMENT OF THE ARMY CEGS-12640 (June 1993
U.S. ARMY CORPS OF ENGINEERS -----
typed 19 NOV 97

GUIDE SPECIFICATION FOR MILITARY CONSTRUCTION

Includes note relocation Special change (August 1995)

Includes Text Adjustment Change (Section 01300 Reference) (June 1997)

Includes changes through Notice 1 (April 1995)

Latest Notice change indicated by ~~&&~~ tokens

SECTION 12640

PREWIRED WORKSTATIONS

06/93

NOTE: This guide specification covers the requirements
for ~~@~~prewired workstations~~@~~. This guide
specification is to be used in the preparation of
project specifications in accordance with ER
1110-345-720.

PART

1 GENERAL

NOTE: Various provisions of this guide specification
may be irrelevant to or in conflict with the
requirements of any given project. It is essential
that the guide be carefully tailored to fit the needs
of each specific application. Paragraphs, sentences,
or portions of sentences must be deleted if not
applicable and additional material inserted where
necessary to adequately delineate requirements.
Brackets and blanks identify provisions which involve
alternates; the editor must select and/or insert the
appropriate requirements.

1.1 REFERENCES

NOTE: Issue (date) of references included in project
specifications need not be more current than provided
by the latest change (Notice) to this guide
specification.

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The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

\-ANSI Z97.1-\ (1984) Safety Glazing Materials Used in Buildings

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

\-ASTM C 423-\ (1990a) Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method

\-ASTM E 84-\ ~~\&(1994)&\~~ Surface Burning Characteristics of Building Materials

\-ASTM C 1048-\ ~~\&(1992)&\~~ Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass

\-ASTM E 290-\ (1992) Semi-Guided Bend Test for Ductility of Metallic Materials

BUSINESS AND INSTITUTIONAL FURNITURE MANUFACTURERS ASSOCIATION (BIFMA)

\-BIFMA X5.5-\ (1989) Desk Products - Tests

\-BIFMA X5.6-\ ~~\&(1993)&\~~ Panel Systems - Tests

FEDERAL STANDARDS (FED-STD)

\-FED-STD 795-\ (Basic) Uniform Federal Accessibility Standards

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

\-NEMA WD 1-\ (1983; R 1989) General Requirements for Wiring Devices

\-NEMA WD 6-\ (1988) Wiring Devices - Dimensional Requirements

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

\-NFPA 70-\ (1993) National Electrical Code

\-NFPA 101-\ ~~\&(1994)&\~~ Safety to Life From Fire in Buildings and Structures

\-NFPA 255-\ (1990) Method of Test of Surface Burning Characteristics of Building Materials

UNDERWRITERS LABORATORIES (UL)

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Literature shall include adequate information to verify that the proposed product meets the specification.

SD-04 Drawings\

Prewired Workstations\; *GA*\.

Drawings showing the proposed prewired workstation installation at a scale of $\frac{1}{4}$ inch = 1 foot, unless otherwise specified. Drawings showing communications, electronic data processing (EDP) and local area network (LAN) locations may be provided as a separate submittal from remaining workstation drawings. Drawing requirements which are the prewired furniture manufacturer's responsibility shall be provided as a single submittal.

a. Overall reference drawings: Drawings showing workstation locations and overall plan view within each floor. The scale shall be $\frac{1}{16}$ inch = 1 foot. Layouts shall reflect field verified conditions.

b. Installation drawings: Drawings showing workstations, panels, components, and plan view within each floor. Workstations shall be identified by workstation type. Scale of drawings shall be identical to Architectural plans. Installation drawings shall reflect field verified conditions.

c. Workstation elevations: Dimensioned workstation elevations showing each type of workstation with all components identified with manufacturer's catalog numbers. Elevations shall be drawn at $\frac{1}{2}$ inch = 1 foot scale.

d. Panel drawings: Panel drawings showing panel locations and critical dimensions from finished face of walls, columns, panels, including clearances and aisle widths. Panels shall be keyed to a legend which shall include width, height, finishes and fabrics (if different selections exist within a project), power or nonpower, panel connectors and wall mount hardware. Panel drawings shall reflect field verified conditions.

e. Panel electrical power drawings: Drawings showing power provisions including type and location of feeder components (service entry poles, base or ceiling feeds), activated outlets and other electrical components. Wiring configuration (circuiting, switching, internal and external connections) shall be identified and a legend provided as applicable.

f. Wire management capacity drawings.

g. Panel communication drawings showing telephone provisions: Drawings indicating the type and location of feeder components and outlets with wiring configuration identified where applicable.

h. Panel communication drawings showing electronic data processing provisions: Drawings indicating the type and location of feeder components, outlets, or accessories with wiring configuration identified where applicable.

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i. Panel communication drawings showing local area network provisions: Drawings indicating the type and location of feeder components and outlets with wiring configuration identified where applicable.

SD-07 Schedules\

Parts List\; *FIO*\.

One complete listing of part/model numbers for all components to be furnished, including names and codes of components referenced on drawings.

SD-08 Statements\

Qualifications\; *FIO*\.

One statement indicating that the manufacturer has specialized in commercial prewired workstation manufacturing for the past 5 years.

SD-09 Reports\

Test Reports\; *GA*\.

One complete set of test reports for the proposed system.

Selected Components\; *GA*\.

Panel Acoustics\; *GA*\.

Fire Safety\; *GA*\.

Electrical System\; *GA*\.

SD-13 Certificates\

Certificate of Compliance\; *FIO*\.

Two complete sets of certificates attesting that the proposed prewired workstation meets specified requirements. The certificate shall be dated after the award of contract, shall name the project, and shall list specific requirements being certified.

Warranty\; *GA*\.

Two copies of the warranty.

SD-14 Samples\

Prewired Workstations\; *GA*\.

Four sets of the following samples. The Government reserves the right to reject any samples that do not satisfy the construction or color requirements. The Contractor shall submit additional samples as required to obtain final approval. No work shall proceed without sample approval in writing from the Contracting Officer.

a. Panel, [tackboard] [and flipper door] fabric. Samples shall measure a minimum ~~to~~ 150 by 150 mm ~~to~~ 6 by 6 inches and shall have labels on

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the back designating the manufacturer, color, fiber content, fabric weight, fire rating, and use (panel and/or tackboard).

b. Work surface panel, and component finish. Samples shall measure a minimum ~~1/2~~^60 by 75 mm^ \ ~2-1/2 by 3 inches~\& \ and shall have labels on the back designating the manufacturer, material composition, thickness, color, and finish.

c. Task lights.

d. Panel glazing. Glazing samples shall have labels designating the material and safety ratings.

SD-19 Operation and Maintenance Manuals\

Product Assembly Manual\; *FIO*\.

Three sets of assembly manuals which describe assembly and reconfiguration procedures.

Product Maintenance Manuals\; *FIO*\.

Three sets of maintenance manuals which describe proper cleaning and minor repair procedures.

Electrical Systems Manual\; *FIO*\.

Three sets of electrical system manuals which describe the functions, configuration, and maintenance of the electrical system (power [, communications] [, data]). This material may be included in the above 2 manuals at the Contractor's option.

1.4 QUALIFICATIONS

The manufacturer shall be a company specializing in the production of prewired workstations for a minimum of 5 years.

1.5 DELIVERY, STORAGE, AND HANDLING

Components shall be delivered to the jobsite in the manufacturer's original packaging with the brand, item identification, and project reference clearly marked thereon. Components shall be stored in a dry location that is adequately ventilated and free from dirt and dust, water, and other contaminants, and in a manner that permits easy access for inspection and handling.

1.6 PATTERN AND COLOR

NOTE: Add a color reference to COLOR SCHEDULE or drawings for all items requiring a finish color. This includes the following items when applicable: Work Surface Colors, Pedestals and Drawers, Panel Supported Storage, Panel Trim and Connectors, Accessories, and a pattern and color reference for Panel, Flipper Door and Tackboard Fabric.

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Pattern and color of finishes and fabrics for panels, components, and trim shall be as [specified in Section: [____]] [shown on the drawings] [selected from manufacturer's standard colors].

1.7 ALTERNATE DESIGN

NOTE: Minor differences exist among different manufacturer's product. This paragraph pertaining to an "alternate design" was written in order not to exclude a manufacturer when an equally acceptable solution is proposed.

Manufacturers who are unable to provide workstations that conform exactly to the furniture layouts and typical workstation types shown in the contract drawings may submit alternate designs for consideration by the Contracting Officer. For an alternate design to be submitted, it must meet the following criteria. Alternate designs that are submitted but do not meet this criteria will be rejected.

1.7.1 Workstation Size and Configuration

The alternate design shall provide workstations of the same basic size and configuration shown with only the sizes of the individual components within the workstation changed to meet the standard product of the manufacturer.

1.7.2 Component Requirements

The types of components utilized shall be as shown on the drawings.

1.7.3 Layout

There shall be no reduction in the number of workstations accommodated and the width of aisles shall not be reduced below requirements defined in \-NFPA 101-\ and \-FED-STD 795-\.

1.7.4 Panel Wiring Configuration

Alternate configurations must support the circuiting and connection capabilities identified under the provisions pertaining to powered panels of paragraph ELECTRICAL. Generally any alternate will be acceptable which involves only a variation in size or quantity that exceeds the specified configuration.

1.8 *WARRANTY*

The Contractor shall warrant the prewired workstation components for a period of 10 years with the following exceptions: fabrics and other covering materials, and paper handling products shall be guaranteed for 1 year, and task lights shall be warranted for 2 years. [Electromagnetic ballasts shall be warranted for 2 years.] [Electronic ballasts shall be warranted for 3 years.] [The electronic ballast warranty shall include a \$10 labor allowance for each ballast.] Warranties shall be signed by the

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authorized representative of the manufacturer. Warranties accompanied by document authenticating the signer as an authorized representative of the guarantor, shall be presented to the Contracting Officer upon the completion of the project. The Contractor shall guarantee that the workstation products and installation are free from any defects in material and workmanship from the date of delivery.

PART 2 PRODUCTS

NOTE: The designer should be certain that the combination of products specified are not proprietary and that they can be provided by several manufacturers. "Free standing" products cannot be specified in the construction contract since it cannot be funded with military construction funding. The prewired workstation layout shall conform to NFPA 101 and FED-STD 795.

2.1 PERFORMANCE AND SAFETY REQUIREMENTS

Panels, connection system, work surfaces, pedestals, shelf units, flipper door units, lateral files, locks, accessories, and miscellaneous hardware shall meet testing as specified. With the exception of ANSI, testing shall be performed by an independent testing laboratory. ANSI testing may be completed in a manufacturer's in-house testing laboratory. Component specific requirements are listed in appropriate paragraphs.

2.1.1 *Selected Components*

Prewired workstations shall conform to the requirements of \-BIFMA X5.5-\ and \-BIFMA X5.6-\ with the following exceptions: Panels and panel supported components shall be tested in accordance with the requirements of \-BIFMA X5.6-\ and representative items shall be selected for testing based on worst case situations (i.e., the deepest and widest work surface or shelf). The keyboard drawer or shelf test shall be performed applying a ^19 kg (50 lb)^\ ~50 lb~\ load to the center of the keyboard shelf for a period of 5 minutes. Any loosening of attachments, permanent deflection or damage to the operation of the drawer or shelf will be cause for rejection.

2.1.2 *Panel Acoustics*

NOTE: Acoustical performance ratings should be based upon the workstation design. While NRC and STC ratings contribute to overall acoustical performance, the acoustical role of panels is relatively minimal in the overall environment when compared to sound absorptive properties of other finish surfaces. In addition, panel hung components greatly reduce the quantity of acoustical contributing area. Most major manufacturers do not comply with the higher 0.80 NRC and 24 STC without providing their more costly high performance panels. The designer must determine if the additional acoustical performance is worth the added cost to the

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Government. Designer must coordinate NRC and STC requirements. If nonacoustical panels are utilized, the entire paragraph should be deleted.

Acoustical panels shall have a minimum noise reduction coefficient (NRC) of [0.65] [0.80] [_____] when tested in accordance with \-ASTM C 423-\ and a minimum sound transfer coefficient (STC) of [14] [24] [_____] when tested in accordance with \-ASTM E 290-\. The test shall be conducted on the entire assembled panel, full face area (the complete core, adhesive, decorative fabric, frame and joining components).

2.1.3 *Fire Safety*

NOTE: Verify that flame spread and smoke development ratings can be met with fabric specified.

Components shall meet Class A requirements for flame spread and smoke development as specified by \-NFPA 101-\. Testing shall have been conducted in accordance with either \-ASTM E 84-\. \-UL 723-\. or \-NFPA 255-\ on the entire assembled panel and each different combination of fabric and interior construction. Panel flame spread shall not exceed 25 and panel smoke development shall not exceed 150.

2.1.4 General Safety

Prewired workstation products shall be free of rough or sharp edges. Panel components shall have a positive, integral locking device which secures components to the support panels without the use of additional screws or clamps so that the components cannot be accidentally pulled or knocked off the panels.

2.1.5 *Electrical System*

Lights (task or ambient) shall be UL approved. The panel electrical system shall meet the requirements of \-UL 1286-\..

2.1.6 Panel Glazing

NOTE: Curved glazed panels should not be specified since most products utilize an acrylic glazing. Acrylic glazing is not acceptable since it does not meet flame spread and smoke development requirements.

Tempered glass shall conform to \-ASTM C 1048-\. Kind FT, Condition A, Type I, [Class 1 Transparent] [Class 3 - Light reducing, tinted].

2.2 PANEL SYSTEM

Accessories and appurtenances for a completely finished panel assembly shall be supplied complete with the system. The system shall be capable of structurally supporting cantilevered work surfaces, shelves, files, and

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other components in the configurations shown on the drawings. The panel system shall be capable of structurally supporting more than 1 fully loaded component per panel per side. Panels shall be either tackable or capable of accommodating fabric covered tackboards. The panel system shall be available in a variety of nominal widths and heights as designated on the drawings. Panel height shall not exceed 2030 mm (80 inches). Heights shall be measured from the finished floor to the top of the panel. Powered and nonpowered panels shall be compatible in height. Minimum panel thickness shall be 40 mm (1-1/2 inches).

2.2.1 Finishes

NOTE: Specify a finish and fabric for applicable items utilized. Where fabric is utilized provide fabric content. (Example: 50% Nylon, 50% Wool). The designer shall verify that fabric content, pattern, and color specified is not proprietary and that several manufacturers can provide a similar product to that specified.

Filler trim incurs added cost and should be omitted unless it is desired for aesthetic reasons.

The panels shall be available in the following options: [acoustical,] [non-acoustical,] [safety glazed,] [open frame]. Exposed panel trim shall have a [factory baked enamel or epoxy powder] [wood,] finish. [Filler trim shall either match the panel trim or be fabric covered to match the panel fabric.] [Filler trim shall not be provided.] Each fabric-faced panel shall have a seamless width of fabric stretched over the entire face of the panel and the color of each fabric utilized shall be consistent throughout the installation. Curved panels may use adhesives on curved sections. The fabric shall be attached securely and continuously along the entire perimeter of the panel and shall allow for easy removal and replacement in the field (with the exception of curved panels). Door panels shall have a rigid metal frame with rails, a threshold, and a [wood] [lamine] clad door adaptable to either hand swing. Door panels shall be of a dimension that will allow for a 810 mm (32 inch) clear opening. Door panels shall include connectors, hinges, brushed chrome door knob, and keyed lockset. Fabric shall be factory installed and panel fabric content shall be [_____].

2.2.2 Raceways

Raceways shall be an integral part of the panel. Panels, whether powered or nonpowered, shall be provided with a raceway cover. Magnet held base covers will not be accepted.

2.2.3 Leveling Glides

The system shall provide precise alignment of adjacent panels and shall include leveling glides to compensate for uneven floors. On panel-to-panel products, each panel shall have 2 leveling glides. On panel-to-post products each connector shall contain a leveling glide. A minimum 20

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mm^ \~3/4 inch~\ adjustment range is required for both panel-to-panel and panel-to-post systems.

2.2.4 Panel Connection System

NOTE: Delete connection of 2 panels for setting the
panels at any angle if not required. This connection
limits sources.

The panel system shall have connectors which accommodate a variety of panel configurations as shown on the drawings. A straight line connection of 2 panels (180 degrees), corner connection of 2 panels (90 degrees), T connection of 3 panels (90 degrees), cross connection of 4 panels (all 90 degrees), and a connection of 2 panels for setting the panels at any angle. The panel connector system shall provide tight connections with continuous visual and acoustical seals. The connector system shall allow removal of a single panel within a typical workstation configuration, without requiring disassembly of the workstation or removal of adjacent panels. The connector system shall provide for connection of panels of similar or dissimilar heights. Right angle (90 degree) connections between panels shall not interfere with the capability to hang work surfaces and other components on any adjacent panel. The connector system shall provide, as required, for the continuation of electrical and communications wiring within workstations and from workstation to workstation. Filler posts shall be level with the panel top rail.

2.2.5 Wall Mounted Panels

Panel system wall-mount accessories shall be used when it is necessary to attach panels to the building walls.

2.2.6 Glazed Panels

Glazed panel inserts shall be comprised of tempered glass in accordance with \-ANSI Z97.1-\ . Acrylic glazing will not be accepted.

2.3 WORKSURFACES

Worksurfaces shall be of a balanced construction to prevent warpage. Worksurfaces shall be either fully supported from the panels or supported jointly by the panels and supplemental legs, pedestals, or furniture end panels. Supplemental end supports shall be used only under work surfaces when the work station configuration does not permit full support by the panels. Metal support brackets shall be used to support worksurfaces from the panels, provide metal-to-metal fitting to the vertical uprights of the panels, and shall lock the worksurfaces in place without panel modifications. Abutting worksurfaces shall mate closely and be at equal heights when used in side-by-side configurations in order to provide a continuous and level work surface. Worksurfaces shall either have pre-drilled holes to accommodate storage components, pedestals and additional supports, or holes shall be able to be drilled at the job site to accommodate these items. Worksurfaces shall be provided in sizes and configurations shown on the drawings. Worksurfaces shall be available in nominal depths of \^[510 mm (20 inches),]^ \~[20 inches,]~\ [and] \^[610

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mm (24 inches),]^\ [24 inches,]\ [and] \^[760 mm (30 inches),]^\ \[30 inches,]\~\ plus or minus \^50 mm,^\ \~2 inches,~\ nominal lengths from \^610 mm (24 inches) to 1830 mm (72 inches),^\ \~24 to 72 inches,~\ and a nominal thickness from \^25 mm^\ \~1 inch~\ to \^45 mm.^\ \~1-3/4 inches.~\ Worksurfaces shall be height adjustable in \^25 mm to 40 mm^\ \~1 to 1 1/2 inch~\ increments from \^630 mm^\ \~25 inches~\ to \^1040 mm^\ \~41 inches~\ above the finished floor. Worksurfaces abutting at equal heights shall provide a continuous and level worksurface. [Corner worksurfaces,] [peninsula worksurfaces,] [and] [counter/transaction worksurfaces] shall be provided as shown on the drawings and shall include hardware necessary to provide firm and rigid support.

2.3.1 Finishes

The worksurfaces shall have a finished top surface of [high pressure plastic laminate], [veneer] and shall have a smoothly finished underside. The worksurface shall not be affected by ordinary household solvents, acids, alcohols, or salt solutions, and shall be capable of being cleaned with ordinary household cleaning solutions. Metal support brackets shall match the color and finish of panel trim. Edges shall be [post formed or vinyl molding] [solid wood].

2.4 PEDESTALS

Drawer configurations and pedestal height shall be as shown on the drawings. The deepest possible pedestal shall be provided for each worksurface size specified.

2.4.1 Construction

With the exception of drawer fronts, pedestals and drawers shall be of steel construction. Drawer faces shall be securely attached to the drawer front. Pedestals shall be attached to the worksurface.

2.4.2 Finishes

The finish of steel surfaces shall be a factory baked enamel finish. Drawer fronts shall be [either steel, plastic laminate, or molded plastic] [veneer].

2.4.3 Drawer Requirements

NOTE: Delete reference to 380 mm (15 inch) high EDP
drawers if not required.

All \^305 mm^\ \~12 inch~\ high file drawers shall have either a cradle type or full extension ball bearing suspension with hanging folder frames or compressor dividers. Drawers shall stay securely closed when in the closed position. Each drawer shall contain a safety catch to prevent accidental removal when drawer is fully open. Drawer pedestals shall be field interchangeable from left to right, or right to left, and shall retain the pedestal locking system capability. Pedestals shall be designed to protect wires from being damaged by drawer operation when wire management runs behind or along the side of the drawers. Box drawers shall

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be provided with [pencil trays] [and] [stationary trays]. All \^380 mm^\
\~15 inch~\ high EDP file drawers shall accommodate EDP printout sheets.
The center drawer shall be mounted under the worksurface and shall contain
a pencil tray.

2.5 PANEL SUPPORTED STORAGE

[Flipper door cabinets,] [shelf units] [and] [lateral files] shall be
provided in the sizes and configurations shown on the drawings. [Flipper
door] [and] [shelf unit] cabinets shall accommodate task lighting and shall
have a [depth to accommodate a standard three ring binder] [and] [minimum
\^380 mm^\ \~15 inch~\ depth to accommodate computer printouts].

2.5.1 Shelf Unit Construction

The shelf pan shall be of metal construction with formed edges. Shelf
supporting end panels shall be constructed of metal, high density particle
board or molded melamine. Supporting end panels shall provide
metal-to-metal connections to the supporting panels. Shelf bottom shall
accommodate task lighting. Shelf units shall accommodate relocatable shelf
dividers.

2.5.2 Flipper Door Unit Construction

Flipper door unit shall be of equal construction to shelf units. Flipper
doors shall be constructed of metal with formed edges, wood frame or
particle board. Flipper door cabinets shall be provided with locks. Units
shall remain securely fastened to the panel when in the locked position.
Doors shall utilize either a ball bearing, rack and pinion, or
scissor-equalizer suspension system.

2.5.3 Lateral File Unit Construction

Panel hung lateral file bins shall be of steel construction. File fronts,
top and end panels shall be of equal construction to flipper door units.
File drawers shall have full extension ball bearing drawer slides or rack
and pinion suspension. File drawers shall have hanging folder frames,
compressor dividers or rails. Lateral file drawers shall be available with
key operated locks.

2.5.4 Finish

NOTE: Designer should not remove an option for a
factory baked enamel flipper door from this paragraph
since a limited number of manufacturers offer a fabric
flipper door. If fabric flipper doors are not desired
for maintenance reasons, the fabric option may be
eliminated since a metal flipper door is readily
available. Delete wood veneer references if not
required.

Shelves and dividers and top dust cover shall have a factory baked enamel
finish. Shelf supporting end panels shall have either a factory baked
enamel or laminate finish. Shelf bottom shall match end panel color.

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Metal doors shall have an exterior finish of factory baked enamel or a factory installed fabric covering and an interior finish of factory baked enamel. Metal drawers shall have a factory baked enamel finish. Fabric content of flipper doors shall be [_____]. [Flipper doors] [and lateral files] shall have a wood veneer surface.

2.6 ACCESSORIES

2.6.1 Coat Storage

[One panel mounted coat hook per workstation occupant shall be provided at each workstation] [and] [a panel mounted storage unit shall be provided as indicated on the drawings].

2.6.2 Keyboards

NOTE: Delete reference to wrist supports if not
required.

Work surfaces shall be capable of accepting [an articulating keyboard] [a keyboard shelf] on workstations as shown on the drawings. The keyboard shall have the capability to be fully recessed under the work surface and extend to give the user full access to the keyboard. Side travel rotation shall be a 180-degree swing. The keyboard pad shall have tilting capability and shall contain a wrist support.

2.6.3 Computer Turntables

Turntables shall be provided on workstations as shown on the drawings. Turntables shall contain a stop mechanism to prevent tangled cords.

2.6.4 Tackboards

Fabric shall be factory installed and fabric content of tackboards shall be [_____]. Location and size shall be as shown on the drawings.

2.6.5 Erasable Marker Boards

Erasable marker boards shall have a porcelain writing surface and contain a storage tray. Size and location shall be as shown on the drawings.

2.6.6 Paper Management Unit

Paper management units shall be provided as indicated on the drawings. These units shall be constructed of coated steel or injection molded plastic and shall accommodate either legal or letter size lengths. Unit shall not be freestanding and shall be provided as shown on the drawings.

2.6.7 Wall Mounted Components

Wall tracks shall be utilized when components are shown attached directly to wall surfaces. Tracks shall be of heavy duty extruded metal. Finish and color of tracks shall match the panel trim. Vertically aligned tracks

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shall be slotted on \^25 mm (1 inch)^\ \~1 inch~\ centers in heights required. Slot spacing shall match slot spacing for wall panels.

2.7 MISCELLANEOUS HARDWARE

Brackets, supports, hangers, clips, panel supported legs, connectors, adjustable feet, cover plates, stabilizers, and other miscellaneous hardware shall be provided.

2.8 LOCKS AND KEYING

NOTE: The quantity of different key operations required is dependent on the size of the project. The number specified should not exceed the quantity of workstations. The maximum quantity utilized shall not exceed 150.

Drawers, flipper door cabinets, and lateral files shall have keyed locks, unless otherwise noted. Field changeable lock cylinders shall be provided with a minimum of [100] [_____] different key options. Each workstation shall be individually keyed and locks within a workstation shall be keyed alike. Drawers within a pedestal shall be lockable either by a central lock that controls all pedestals under one work surface or an individual keyed lock in each pedestal. Central file and storage units which are grouped together but are not a part of a workstation shall be keyed alike unless otherwise specified. Two keys shall be provided for each lock or 2 keys per workstation when keyed alike, and 3 master keys shall be provided per area as shown on the contract drawings. Keys and lock cylinders shall be numbered for ease of replacement. Locks shall be clearly labeled with a key number, except for those manufacturers who have removal format locks.

2.9 ELECTRICAL

NOTE: Recommend the type of cabling assembly (wiring, harnesses, or buses) be left as a Contractor selection unless necessary to restrict for compatibility with existing equipment.

Both powered or nonpowered panels shall have base raceways capable of distributing power circuits, [communication cables] [and] [data lines]. Nonpowered panel bases shall be capable of easy field conversion to powered panel base without requiring the panel to be dismantled or removed from the workstation. The system shall use copper [cable assemblies,] [wiring harnesses] [or] [electrified bus] and shall meet requirements of \-UL 1286-\ and \-NFPA 70-\, Article 605. Conductors shall consist of 20 amp [90] [75] degree C, #12 AWG wires or the equivalent in the bus configuration. The label or listing of Underwriter's Laboratories, Inc. will be accepted as evidence that the material or equipment conforms to the applicable standards of that agency. In lieu of this label or listing, a statement from a nationally recognized, adequately equipped testing agency shall be submitted indicating that the items have been tested in accordance with required procedures of UL and that the materials and equipment comply

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with contract requirements. Electrical work not addressed in this section shall conform to the requirements of Section \=16415=\ ELECTRICAL WORK, INTERIOR.

2.9.1 Panel Bases (Raceways)

Panel bases shall have hinged or removable covers which permit easy access to the raceway when required but which are securely mounted and cannot be accidentally dislodged under normal conditions. The panel bases shall not extend past either panel face by more than $\sqrt{10}$ mm. $\sqrt{\sim 1/2}$ inch. \sim Metal or plastic end covers which attach securely to the panel base shall be provided as required and shall match the finish and color of the panel base. Bases in full size (over $\sqrt{610}$ mm $\sqrt{\sim 24}$ inches \sim powered panels shall have a minimum of 2 knockouts (doors) per side for electrical connections or outlets as indicated elsewhere.

2.9.2 Powered Panels

NOTE: The 8-wire system should be utilized for applications serving mixed loads including electronic data processing equipment. Since EDP equipment generates high levels of harmonics (* see footnote below), a full size neutral should be provided for each EDP circuit. Alternately, it is recommended that the phase conductor not be loaded to more than 12A or that an oversized neutral be specified. To minimize interference from electronic noise to sensitive data processing components, the EDP equipment should be placed on the dedicated circuits. In the absence of other criteria, use of a separate isolated ground conductor is also recommended for the EDP circuits (See NFPA 70, Art. 250-74). (In Air Force applications, verify ground requirements for specific projects. Some Air Force facilities consider an isolated ground unnecessary for the typical personnel computer application. However, be aware that some manufacturers of EDP equipment will not provide full warranty coverage if a conventional multiple-bonded equipment grounding conductor is used on EDP circuits.) The isolated ground conductor should be extended to the building service location, or to the first upstream transformer where applicable, and be bonded to ground at that point only. If the amount of EDP load is extensive and the conventional load is minimal, a modified 8-wire system could be provided: 3 dedicated phase, 1 dedicated oversize neutral (#10 with 14A max phase loading), an isolated ground, and a conventional phase, neutral, and ground conductor. The non-EDP load should be placed on the conventional conductors. (An 8-wire configuration with 3 phases, 3 neutrals, an isolated ground, and a conventional ground could also be used. Non-EDP load should be connected to the conventional ground and least loaded phase conductor.) The 5-wire system may be used if no EDP loads are to be supplied. The 6-wire system is a less reliable, hybrid

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configuration in which EDP and non-EDP loads use a shared neutral. It could also be used for Air Force shared ground applications with the isolated ground connector either disconnected or interconnected with the equipment ground.

*Harmonics cause distorted waveforms, a concentration of currents in the neutral and consequent heating of associated conductors and equipment. Theory predicts neutral current levels of up to 1.73 times the fundamental current of the phase conductors, although some individuals feel 300% levels are possible under certain conditions. The manufacturers who have been developing products for nonlinear applications have thus far not seen the need to compensate for the harmonics effects beyond a nominal rating of 200% (neutral size in 3-phase equipment or feeders). See Note I for additional information.

If the application will involve EDP equipment and/or the 8-wire system has been selected, designers need to ensure that the distribution equipment supplying the prewired workstations is capable of supporting nonlinear loads.

General Considerations

Layout and sizing of the distribution system serving prewired furniture applications needs to consider other sources of harmonics and the cumulative effect of harmonics on upstream portions of the system. In the single-phase segments of a 3-phase portion of the system, neutral current is equal to the phase current. In the 3-phase portion of the system, phase currents will either cancel or add in the neutral. When loads are purely linear, currents will cancel to zero, or essentially so, depending on the balance of the load over the 3 phases. When nonlinear loads are involved, currents are primarily additive (even harmonics cancel, odd harmonics which generally predominate, add). The additive effect occurs on the shared portions of the neutral (i.e., upstream of interconnections or of 2 or more devices connected from different phase conductors to the common neutral). Thus accommodation of harmonics effects on the upstream portions of the distribution system is essential. Ballasted lighting will also generate harmonic currents (predominately third harmonics). The electronic type of ballast generates higher frequency harmonics and at higher magnitudes than traditional electromagnetic ballasts (See Note L). Other types of nonlinear loads such as variable frequency drives would rarely be found in the prewired workstation area, but must be identified and evaluated to properly design the upstream distribution system.

New Projects

For projects involving all new construction, the 3-phase power feeder to each prewired workstation should extend the configuration of the 8-wire cable assembly contained in the prewired panels. Since the neutral has become a current carrying conductor, the ampacity of the phase conductors needs to be derated per NFPA 70. Upstream electrical panelboards should be rated for nonlinear loading or be required to have a neutral bar sized at 200% of the phase bars (or 173% minimum). Circuit breakers should be sized on a derated ampacity or be nonlinear rated. The neutral of feeders to panelboards supplying predominantly nonlinear loads should be sized at 173% minimum (200% preferred) of phase conductors. If the nonlinear loads are located only on 1 or 2 legs of the 3 phase system, reduction of the neutral to 133% or 150%, respectively, could be considered. Transformers serving prewired workstations should be rated for nonlinear loads. Ratings are specified by use of K-factors (defined by Underwriter's Laboratories based on the procedures of IEEE C57.110). Transformers with a K-factor of 4 can accommodate mixed loads consisting of 50% conventional, 50% harmonics generating equipment. A K-13 transformer could support 100% harmonics loads up to its KVA size rating. The K-4 version should be adequate for most prewired workstation furniture applications having mixed loads. Since the K-4 and K-13 units are variations of the older design high efficiency, premium grade 115 degrees C and 80 degrees C temperature rise units, they can be obtained without difficulty; other ratings may be special order until the market develops. Note that oversizing conventional dry type transformers (K-1, 150 degrees C rise) results in inefficient transformer usage and does not compensate for all detrimental harmonic effects.

Additions to Existing Facilities

If prewired workstations are to be supplied by an existing power distribution system and adjustments similar to the above are not feasible, the impact of the harmonics generating loads should be minimized. It is recommended that receptacles be limited to 1 per circuit or that circuit loading be kept under 10A nominal (i.e. using conventional linear based ratings or readings). In most cases this would allow either 2 personal computers (3A-5A ea.), or 1 desk top printer (2A-5A) and 1 computer, or 1 laser printer (6A-10A) on a circuit. Note that a fluctuating load, or an intermittent load such as the usual printer application, will not generate the same heating effect as another load of the same size operated continuously at full amperage. Labels should be applied at electrical panelboards and beside receptacles stating the maximum allowable loading. Note that instruments

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used to determine existing loading conditions must be true rms sensing to reflect overall cumulative current levels and the actual resultant heating effect. Other sine wave calibrated types such as the typical average responding (peak averaging) multimeters or VOMs can indicate significantly less than actual current levels.

Surge suppression and power conditioning receptacle modules are available. However power conditioning for specific loads (particularly portable equipment) is normally a User responsibility and is not furnished as part of the construction contract. The Air Force has identified specific responsibilities of the user and suppliers of end-use equipment. (See Air Force ETL 89-6 for specific criteria or verify specific requirements for electrical support.)

Powered panels shall be provided as indicated on the drawings. The panels shall have an internal [power] [and] [communications] raceway and the capability of disconnecting and connecting external circuits to the electrified raceway in the panel. The communications receiving raceway shall have capacity for at least [six] [twelve] [twenty] 25-pair telephone cables. Power and communications wiring may share a common wireway if a metal divider is included to ensure electrical isolation. Doors or access openings shall be included for entry of communications cable. The electrified power raceway shall be of the [8-wire] [6-wire] [or] [5-wire] configuration indicated. [Unless otherwise indicated, conductors of the 8-wire system shall be allocated as follows: 3 phase, a neutral, an equipment ground, and 1 each dedicated phase, [neutral] [oversized (133% minimum) neutral], and isolated ground] [1 each phase, neutral, and equipment ground, 2 each dedicated phase and neutral, 1 dedicated isolated ground].] [Conductors of the 5-wire system shall be allocated as follows: 3 phase, a neutral, and an equipment ground]. [Conductors of the 6-wire system shall be allocated as follows: 2 phase, an equipment ground, an oversized (173% minimum) neutral, a dedicated phase, and an isolated ground].

2.9.2.1 Receptacles

NOTE: See Additional Note J.

Power receptacles shall be provided in the bases of the powered panels. Devices shall be placed at the locations indicated on the plans and shall be connected to the designated circuits. Unless otherwise indicated, receptacles shall be 15 amp (NEMA 5-15R) commercial grade conforming to \-NEMA WD 1-\ and \-NEMA WD 6-\. If receptacles are not interchangeable or will not permit field adjustment of phase and circuit selection, 10 percent spare devices of each type shown on these plans shall be furnished. [All] [General use] receptacles shall be of the duplex configuration; unless otherwise indicated, special use receptacles shall be of the simplex configuration with the blade/pin arrangement identified on the plans. The color of receptacle bodies shall be coordinated with the color of the panel base. Isolated ground receptacles shall have distinct markings or be of a

different color than other receptacles (orange preferred). Field applied identification shall be permanent; stick-on or non-setting adhesives shall not be used. A minimum of [5] [_____] receptacle removal tools shall be provided for systems that require special tools for proper receptacle removal.

2.9.2.2 Power Cabling Variations

The paragraph Powered Panels has identified specific cabling configurations. Since universal conventions have not been established, variant configurations available from various manufacturers will be considered. Alternates shall allow the same circuiting, device connections, neutral and ground separation, and upstream feeder connections as shown on the plans. Variations shall be approved in advance. See paragraph ALTERNATE DESIGN. Examples of acceptable variations include:

- a. Use of 1 oversized neutral in lieu of 2 or 3 specified neutrals (neutral must have 150 percent minimum of phase conductor ampacity, i.e. #10 TW neutral if replacing 2 #12 TW conductors; 173 percent and #8 if replacing 3 neutrals) or vice versa.
- b. Providing a 6-wire system in lieu of a 5-wire system shown on plans.
- c. Use of a manufacturer's configuration which allocates individual conductors differently, but which has the same quantity of conductors and allows devices to be physically connected in the field as shown on the plans. It is not necessary that the manufacturers labeling codes or terminology match the designations used on project plans or in the specifications; however, neutrals and grounds shall have insulation color coded per standard practice or be provided with tags, colored tape, colored ribbons or similar identification. (The reference to "dedicated" conductors in this specification pertains to circuit connections upstream and load connections downstream of prewired panels; it is not necessary that manufacturer's designations correspond.)

2.9.3 Electrical Connections

NOTE: The direct wired configurations should be suitable for most applications. All wiring should be contained within raceways or wireways. The exposed cord/plug arrangement should not be used, unless specifically requested by the User. If used, ensure that the design conforms to the limitations of Article 605-8 of NFPA 70. Code-enforcing personnel in some areas require separate hard wired junction box interfaces from building services to prewired workstation installations. If the facility will be under their jurisdiction, the design must conform and the junction box configuration must be provided in lieu of the direct wired. If the facility will not be under local jurisdiction, the direct wired configuration could be provided per User request; however, it is preferred that the Government design be consistent with local practice. If top entry service poles are used

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for power interfacing, the junction box configuration
is preferred for all locations.

2.9.3.1 Internal Connections

Internal panel-to-panel power connections shall utilize straight or flexible plug/receptacle connector assemblies and shall be installed to provide the powered panel configurations shown on the drawings. Connectors shall be configured so that ground pins will provide "first make, last break" operation.

2.9.3.2 Connections to Building Services

External [power] [and] [communications] services shall be supplied to the panels via [direct-wired [top] [base] entry modules.] [hard wired [top] [base] entry junction box assemblies.] [Wiring from building services shall be extended to the entry modules or panel bases in metal conduit or tubing or in flexible liquidtight conduit \^1830 mm^\ \~6 foot~\ maximum.] [Wiring from building services shall be extended to junction box assemblies in metal conduit or tubing. Wiring from junction boxes shall be flexible liquidtight conduit \^1830 mm^\ \~6 foot~\ maximum or in metal conduit or tubing.] Cord and plug assemblies shall not be used for any portion of external links. [Base feed modules shall plug into the end or either side of the raceway at receptacle doors.] [Top entry [modules] [junction box assemblies] shall extend the [power] [and] [communications] wiring into service entry poles attached to the electrified panels.] External wiring shall conform to Section \=16415=\ ELECTRICAL WORK, INTERIOR.

2.9.4 Wire Management

Wire management capability shall be provided at all workstations. Actual wire management capacity shall accommodate all cable types specified, including the applicable manufacturer required bending radius at corners. The capability may be accomplished by cable access cutouts (1 minimum per work surface), covered wire management troughs in vertical end panels, horizontal wiring troughs, internal midpanel raceways, or rear gaps (between the back edge of the work surface and the facing support panel). Grommet kits or another suitable finish arrangement shall be provided for all cable cutouts. Accessories for an externally mounted vertical and horizontal wire management and concealment system shall be provided [as indicated on the contract drawings] [as recommended by the manufacturer]. Horizontal wire managers shall be supplied for mounting under all work surfaces. The wire managers shall be attached either to the underside of the work surface or to the vertical panel without damage to the face of the vertical panel. Exposed or loose wiring will not be acceptable. Wire managers shall be prefinished and shall secure, conceal, and accommodate outlet cords as well as electrical and communications wiring. Wire channels shall match color of panel trim, attach to panel or rail by means of clip-on attachment, and shall conceal wires routed vertically. Power wiring shall be separated from communication wiring by use of separate raceways or by placement of barriers or channels in joint use troughs or wireways.

2.9.5 Circuit Layout

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The circuit layout for workstations shall be as shown on the drawings. Devices shall be connected to the designated circuits in the neutral and ground configurations indicated. Connections shall be made to the building electrical distribution system as shown on the contract drawings and in accordance with Section \=16415=\ ELECTRICAL WORK, INTERIOR.

2.9.6 Service Entry Poles

NOTE: Coordinate requirements with paragraph Powered Panels. See Additional Notes H and I for external distribution requirements and nonlinear load applications. Also see application instructions in Additional Note K.

Service poles shall be provided as indicated on the contract drawings and shall be capable of minimally accommodating the [8-wire] [6-wire] [5-wire] power configuration described in paragraph Powered Panels and the equivalent of [six] [twelve] [twenty] 25-pair communication cables. Poles shall have metal barriers or channels to separate power and communications wiring. Pole dimensions shall be equal to panel thickness. The pole finish and color shall [match the finish and color of the panel trim] [conform to requirements shown on the plans]. Designated poles shall have the capability of being opened along the vertical access to permit the lay-in of wiring. Each pole shall have a wiring interface, an end cap and a ceiling trim plate which extends a minimum of 40 mm (1-1/2 inches) from all sides of the pole. Poles for power service shall include a junction box either as part of the pole assembly or in a field installed configuration. Service poles shall be securely attached to the panels and shall be installed plumb. Wiring and interface components shall be provided as required to connect the building power supply to power poles.

2.9.7 Task Lighting

Task light size and placement shall be provided as indicated on the contract drawings. Such lights shall be a standard component of the manufacturer's prewired workstation products. Task lights mounted to the underside of overhead shelving shall be the same length as the overhead storage unit unless otherwise indicated. The ends of the task light length shall not extend beyond the edges of the overhead unit. Task lights shall have structurally sound mounting devices which will prevent accidental displacement, but will allow easy removal and replacement when necessary. Fixtures shall be UL approved for use in the configurations indicated on the drawings.

2.9.7.1 Luminaire Configuration

NOTE: The lamp and ballast types should be indicated on the drawings. Use of electronic ballasts and T8 lamps should be considered in applications where energy conservation is a primary concern. Although there are no national standards for electronic ballasts, technical requirements are covered in CEGS-16415 Electrical Work, Interior. Electronic ballasts are the

most efficient fluorescent ballasts, eliminate visual flicker and are quiet. When used, the electrical design must consider the harmonics and electromagnetic energy generated by these ballasts. Specific areas which should not have electronic ballasts are medical electronic equipment areas and areas equipped with infrared remote control or security devices. It is important to inform Users of the benefits and risks of electronic ballasts and to involve them in the decision regarding their use.

Luminaires shall be the fluorescent type and shall have prismatic lenses, baffles, or reflector systems configured to minimize glare by shielding the lamp from the view of a seated user. Task lights shall provide a minimum of $\sqrt{[810 \text{ lx (75 foot candles)]}^2 \sim [75 \text{ foot candles}]^2 \sim [650 \text{ lx (60 foot candles)]^2 \sim [60 \text{ foot candles}]^2}$ of light, without veiling reflections, on the work surface directly below the fixture. All diffusers, grilles or other coverings shall be easily removable to permit cleaning and relamping. Fixtures shall be provided with energy efficient ballasts and lamps as indicated. If the type is not identified on the plans, F32T8 lamps in $\sqrt{1220 \text{ mm}} \sim 4 \text{ foot}$ units with electronic ballasts shall be used. Each luminaire shall have an easily accessible on-off switch and one rapid-start ballast. A variable intensity control is acceptable if the low setting is equivalent to "off" with zero energy consumption. Multiple switching is also acceptable. Ganged fixtures or shared ballasts shall not be used. Lamps and ballasts shall conform to the requirements of Section 16415=ELECTRICAL WORK, INTERIOR.

2.9.7.2 Wiring

NOTE: If the facility will be under the jurisdiction of a city code, verify requirements. Some locations require hard wired connections.

Each fixture shall have a $\sqrt{1830 \text{ mm}} \sim 6 \text{ foot}$ minimum, factory installed, heavy duty electrical cordset with a grounded plug. Direct or hard wire connections are not acceptable. Unless otherwise indicated, cords shall be concealed. Provisions shall be built in within panels or shall utilize field installed, manufacturer approved accessories. Cords may be extended through dedicated channels located at any point within panels or may be placed in vertical slots or in the space between panels if held in place by retainers and concealed by a cover plate. Vertical wire managers shall be prefinished and cut to size and shall extend from the task light level down to the top of the work surface below the task light. Each manager shall be attached to a panel vertical edge or connector strip without damage to the panel surfaces.

2.9.8 Communications

Communications wiring shall be extended to, and installed in, the electrified panels as shown on the plans. Communications outlets shall be installed at designated locations. Communications work may be performed in conjunction with the installation of the prewired workstations or may be

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separately executed at the Contractor's option; however, equipment, materials, and installation shall conform to the requirements of [Section \=16415=\ ELECTRICAL WORK, INTERIOR] [Section \=16740=\ TELEPHONE SYSTEM, SMALL] [Section \=16740A=\ TELEPHONE SYSTEM, PRE-WIRING] [_____] and all interfaces must be properly coordinated.

2.9.9 Special Systems

NOTE: Include this paragraph only in projects where requirements for shielded facilities (TEMPEST, Red/Black, EMP, etc.) and secure wiring have been called out in project criteria. Specific requirements for cable arrangement, separation of Red/Black lines, etc. need to be verified for each project. Provide metal raceway, channels, etc. throughout. Separation distances required for exposed cable or wiring in nonmetallic raceways are much greater than for wiring installed in totally enclosed metal raceway. Site specific details and/or notes should be prepared for each project.

Designated raceway systems shall provide management for secure and nonsecure power, computer and telecommunications cabling. Secure distribution shall be separated from nonsecure distribution [in accordance with details shown on the plans] [by running secure lines along top located raceway and nonsecure along the bottom of the workstation panel].

PART 3 EXECUTION

3.1 INSTALLATION

The prewired workstations shall be installed by certified installers in accordance with manufacturer's recommended installation instructions. Workstation components shall be installed level, plumb, square, and with proper alignment with adjoining furniture. The components shall be securely interconnected and securely attached to the building where required. Three sets of special tools and equipment necessary for the relocation of panels and other components shall be furnished.

3.2 CLEANING

Upon completion of installation, all products shall be cleaned and polished and the area shall be left in a clean and neat condition. Any defects in material and installation shall be repaired, and damaged products that cannot be satisfactorily repaired shall be replaced.

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